Supreme Court, U.S.
FILED

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No. _____

In The

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

THE UNITED STATES, et al.,

Respondents.

**On Petition For Writ Of Certiorari
To The Supreme Court
Of The State Of Arizona**

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Does a sudden, unpredictable and retroactive change in judicial precedent that revokes vested property rights in groundwater constitute a taking of private property without just compensation in violation of the Fifth Amendment to the United States Constitution?

PARTIES TO THE PROCEEDINGS

Petitioners are Phelps Dodge Corporation, a Delaware corporation, and Arizona Public Service Company, an Arizona corporation. Each of the petitioners has filed one or more Statements of Claimant in the underlying proceeding before the Superior Court of the State of Arizona, In and For the County of Maricopa, for adjudication of rights to waters in the Gila River System and Source in Arizona. Each of the petitioners also engages in operations or activities within the State of Arizona that depend upon the use of groundwater.

Respondents are all other parties to the appeal below before the Supreme Court of the State of Arizona, case numbers WC-90-0001-IR through WC-90-0007-IR (consolidated) and WC-79-0001 through WC-79-0004 (consolidated) from which this petition arises.* The Respondents are:

United States of America
Gila River Indian Community
Hopi Tribe
San Carlos Apache Tribe
Tonto Apache Tribe
Yavapai Apache Indian Tribe, Camp Verde Reservation

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* The following entities listed as parties to the appeal below before the Supreme Court of the State of Arizona are not considered Respondents because they or their successors are, in their current corporate status, related to Petitioner Phelps Dodge Corporation: Cyprus Christmas Mining Corporation; Cyprus Miami Mining Corporation; Cyprus Pima Mining Corporation; Cyprus Sierrita Corporation; and Cyprus Twin Buttes Corporation.

PARTIES TO THE PROCEEDINGS – Continued

State of Arizona
Maricopa County, Arizona
Pima County, Arizona
City of Benson, Arizona
City of Chandler, Arizona
City of Glendale, Arizona
City of Globe, Arizona
City of Goodyear, Arizona
City of Mesa, Arizona
City of Phoenix, Arizona
City of Scottsdale, Arizona
City of Sierra Vista, Arizona
City of Tempe, Arizona
City of Tucson, Arizona
Town of Gilbert, Arizona
Town of Mammoth, Arizona
Town of Patagonia, Arizona
Town of Wickenburg, Arizona
Apache Nitrogen Products, Inc.
Arlington Canal Company
Arizona Rock Products Association
ASARCO, Inc.
Bella Vista Ranches Limited Partnership
Bella Vista Water Company, Inc.
Buckeye Irrigation Company
Buckeye Water Conservation and Drainage District
Central Arizona Irrigation and Drainage District
Church of Jesus Christ of Latter-Day Saints
Cortaro-Marana Irrigation District
Cortaro Water Users' Association
Farmers' Investment Company
Franklin Irrigation District

PARTIES TO THE PROCEEDINGS – Continued

Members of the Gila Bend-Dendora Valley Water Users Association
Gila Valley Irrigation District
Heber Domestic Water Improvement District
Silas Kisto
Wayne D. Klump
Little Colorado Water Association
Magma Copper Company (now BHP Copper)
Maricopa County Water Conservation District No. 1
Maricopa-Stanfield Irrigation and Drainage District
Nature Conservancy
New Magma Irrigation and Drainage District
Paloma Investment L.P. (now Gillespie Dam Investments, LLC)
Paloma Ranch Investments
Peabody Coal Company
Pinetop Water Company
Ponderosa Domestic Water Improvement District
Represented Claimants, who are 50 named persons and entities
Rigby Water Company
Rio Rico Properties, Inc.
Roosevelt Irrigation District
Roosevelt Water Conservation District
Salt River Project Agricultural Improvement & Power District
Salt River Valley Water Users' Association
San Carlos Irrigation and Drainage District
Sky-Hi Domestic Water Improvement District
St. David Irrigation District
Tenneco Arizona Properties Corporation
Tenneco West, Inc.

PARTIES TO THE PROCEEDINGS – Continued

Valencia Water Company, Inc.
Vernon Domestic Water Improvement District
Ray Wrobley, Charles Onion, John Kovavich,
Dennis Weckerly – officers and directors
of Verde Valley Water Users, Inc.

Each of the foregoing is a claimant in the adjudication below in the Maricopa County Superior Court concerning water rights in the Gila River System and Source, or in a second general stream adjudication pending in Apache County Superior Court, Cause No. 6417, concerning water rights in the Little Colorado River System and Source. Each of these parties appeared pursuant to the Orders Concerning Petitions for Interlocutory Review (filed December 11, 1990) of the Supreme Court of the State of Arizona as a party to the appeal from which this petition for writ of certiorari arises. Thousands of additional parties have filed Statements of Claimant in the underlying adjudication before the Maricopa County Superior Court, but did not appear as parties in the appeal from which this petition arises. Therefore, these additional claimants are not considered Respondents to this petition pursuant to the Rules of the Supreme Court of the United States.

CORPORATE DISCLOSURE

Pursuant to Rule 29(6), Rules of the Supreme Court of the United States, the Petitioners disclose that Petitioner Phelps Dodge Corporation has no parent corporation and that no publicly held corporations own 10 percent or more of the stock of Petitioner Phelps Dodge Corporation. The parent corporation for Petitioner Arizona Public Service Company is Pinnacle West Capital Corporation, and no other publicly held corporations own 10 percent or more of the stock of Petitioner Arizona Public Service Company.

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PETITION FOR WRIT OF CERTIORARI

Petitioners, Phelps Dodge Corporation and Arizona Public Service Company, respectfully petition for a writ of certiorari to review the September 22, 2000 opinion of the Supreme Court of the State of Arizona. This opinion (the "Opinion Below") retroactively changed long-standing judicial precedents concerning the nature of rights in underground water in the State of Arizona. Petitioners assert that this retroactive change was such a sudden and unpredictable departure from the Supreme Court of Arizona's prior precedents that it has effected a judicial taking of private property without compensation in violation of the takings clause of the Fifth Amendment to the United States Constitution.

OPINIONS BELOW

The Opinion Below is reported at 9 P.3d 1069 (Ariz. 2000) and is reprinted in Appendix A. The order of the Maricopa County Superior Court from which the above appeal ensued, dated June 30, 1994 (the "1994 Order"), is unpublished and is reprinted in Appendix B. The Arizona Supreme Court's opinion remanding the original issue to the trial court, *In re the General Adjudication of All Rights to Use Water In the Gila River System and Source*, ("*Gila II*"), is reported at 857 P.2d 1236 (Ariz. 1993) and is reprinted in Appendix C.

The Arizona Supreme Court's Orders Concerning Petitions for Interlocutory Review, dated December 11, 1990, are unpublished and are reprinted in Appendix D. The Special Procedural Order Providing for Interlocutory Appeals and Certifications adopted by the Arizona

Supreme Court on September 26, 1989 is unpublished and is reprinted in Appendix E. Additional relevant orders of the trial court are unpublished and are reprinted in Appendices F through I.

JURISDICTION

The Arizona Supreme Court issued the Opinion Below on September 22, 2000. Motions for Reconsideration were filed by Petitioners and by ASARCO Incorporated on October 10, 2000. The court denied both motions on December 19, 2000. This petition for writ of certiorari is filed within 90 days of the denial of the motions for reconsideration, pursuant to Rules 13(3) and 29(2), Rules of the Supreme Court of the United States.

The jurisdiction of this Court is invoked under 28 U.S.C. § 1257(a).

STATUTORY PROVISIONS INVOLVED

1. The takings clause of the Fifth Amendment to the United States Constitution provides in relevant part:

> [N]or shall private property be taken for public use without just compensation.

2. Arizona Revised Statutes (A.R.S.) § 45-141.A. provides:

> The waters of all sources, flowing in streams, canyons, ravines or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to

appropriation and beneficial use as provided in this chapter.

STATEMENT OF THE CASE

A. Procedural History of the Question Presented.

This case is a general adjudication of all rights to use water in the Gila River System and Source in the State of Arizona. It was initiated in 1974 by the filing of a petition to adjudicate conflicting claims to water rights in a portion of the Gila River Basin. *See United States v. Superior Court*, 697 P.2d 658, 663 (Ariz. 1985). Additional petitions were subsequently filed for other portions of the Basin, and these several actions were consolidated by the Arizona Supreme Court into a single, comprehensive general stream adjudication. *Id.* at 664. As a general adjudication, this case affects the water rights of all claimants who assert a right to use any water subject to the jurisdiction of the court within the geographic boundaries of the Gila River Basin. Furthermore, because "[w]ater usage in Arizona exceeds available surface supply," *id.* at 663, the claims of any one party to the adjudication will " 'inescapably vie with other public and private claims for the limited quantities to be found in the rivers and streams' " of Arizona. *Id.* (quoting *United States v. New Mexico*, 438 U.S. 696, 699 (1978)).

The Gila River Basin encompasses approximately 47% of the land in Arizona. The waters of the Basin are used by millions of Arizonans for municipal, agricultural, industrial, recreational and other purposes. Approximately 85% of the state's population resides in the Basin. *See* J. Folk-Williams, *The Gila Basin and the Waters of Southern Arizona*, at 4 (1991). However, the surface waters

in the Gila River System supply only one-fourth of the Basin's water requirements. *Id.* The balance is met either with Colorado River water imported through the Central Arizona Project, or by groundwater pumped from the large regional aquifers that underlie most of the land in the Basin. *Id.*

As will be discussed in greater detail below, Arizona law establishes a bifurcated system of water rights under which surface water and the "subflow" of surface streams are subject to the doctrine of prior appropriation, while "percolating" groundwater is not subject to appropriation. Instead, percolating groundwater is subject either to the doctrine of reasonable use, under which all landowners have an equal right to use groundwater underlying their lands for any reasonable purpose on the land from which it is withdrawn, *Bristor v. Cheatham*, 255 P.2d 173, 177 (Ariz. 1953), or to the statutory requirements of the Arizona Groundwater Code, A.R.S. § 45-401 *et seq.*

Because every claimant is, to one extent or another, adverse to all other claimants, the Gila River Adjudication is a lawsuit of nearly unrivaled scope, complexity and duration. In the late 1970s and early 1980s, more than 849,000 summonses were sent to potential claimants notifying them of the pendency of the case and the procedure for submitting their water rights claims to the court. *See In the Matter of the Rights to the Use of the Gila River* ("*Gila I*"), 830 P.2d 442, 446 (Ariz. 1992). Those persons to whom summonses were sent included virtually all landowners within the geographic boundaries of the Gila River Basin, as well as "all well owners of record and all known holders of water rights within the watersheds. . . . " *Id.* In response, more than 66,000 separate "Statements of Claimant" were filed by more than 24,000 claimants.

Many of these claims asserted only a right to use groundwater in accordance with state law.[1]

B. Superior Court Proceedings Below.

Given the large number of claimants, this case is one of the most complex legal proceedings ever adjudicated in the United States. Because of this complexity, a number of threshold jurisdictional issues required resolution before adjudication of individual claims could begin. *See Arizona v. San Carlos Apache Tribe*, 463 U.S. 545 (1983); *United States v. Superior Court*, 697 P.2d 658 (Ariz. 1985).

After resolution of these threshold issues, the trial court began prioritizing the thousands of claims in the Gila River Adjudication. The court issued comprehensive case management orders and convened frequent status conferences intended to identify and address important legal issues requiring early attention by the court.

During this process of framing the issues that would determine the future course of the adjudication, the trial court held hearings on the relationship between groundwater and surface water for the general education of all parties and the court. Following the hearings, several

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[1] A second general stream adjudication is pending in the Little Colorado River Basin in northeastern Arizona. Although the issue addressed in this petition arose in the Gila River Adjudication, the Opinion Below also may be applied in the Little Colorado River Adjudication. *See* Opinion Below, 9 P.3d at 1081 at App. A27. The Little Colorado River Basin comprises approximately 21,000 square miles in Arizona, and more than 3,100 claimants have filed more than 11,000 claims in the adjudication. As in the Gila River Adjudication, many of these claims assert only a right to use groundwater pursuant to state law.

parties filed a motion for summary judgment to "exclude from the adjudication all wells which are pumping 'percolating groundwater' " and to include only those wells pumping surface flow and subflow within the meaning of *Maricopa County Municipal Water Conservation District No. One v. Southwest Cotton Co.*, 4 P.2d 369 (1931) ("*Southwest Cotton*"). In considering the issues raised in the motion, the court determined, *sua sponte*, that it would be "appropriate to expand the citie's [sic] motion to the entire issue of the Ground Water and Surface Water Relationship. . . . " Minute Entry, November 20, 1987, at App. H3.

Subsequently, in January 1988, the trial court ordered the parties to brief eight issues it intended to resolve concerning the interrelationship between groundwater and surface water. Among these issues, the court identified the question: "Is ground water included within the phrase 'river system and source' as it is used in A.R.S. §§ 45-141 and 45-251(B), and if so, to what extent is it included?" Minute Entry, January 19, 1988, at App. G2.

After these questions were briefed and argued, the court issued an order, dated September 9, 1988 (the "1988 Order"), ruling on each of the eight issues identified in its prior minute entry. On the question of whether groundwater is included within the phrase "river system and source," the court ruled that groundwater is included in the river system and source only if it is a stream's "subflow." 1988 Order, at App. F13. The court further concluded that certain wells pumping water from the "younger alluvium" of a stream basin should be presumed to be pumping appropriable subflow and should be included in the Arizona Department of Water Resources' "hydrographic survey reports" if the wells met the following test:

> As to wells located in or close to that younger alluvium, the volume of stream depletion would reach 50% or more of the total volume pumped during one growing season for agricultural wells or during a typical cycle of pumpage for industrial, municipal, mining, or other uses, assuming in all instances and for all types of use that the period of withdrawal is equivalent to 90 days of continuous pumping for purposes of technical calculation.

Id., at App. F14. The effect of this ruling was to declare that groundwater users pumping water within this definition of subflow were diverting appropriable surface water under A.R.S. § 45-141.A. "Therefore, [groundwater users'] rights to that water would depend on the priority of their appropriation, rather than on an owner's right to remove water percolating under the surface of the owner's land." *Gila II*, 857 P.2d at 1239, at App. C7.

Although this 50%/90 day test was explicitly acknowledged by the trial court to be "somewhat arbitrary," the court explained it as being instructive to the Department of Water Resources in preparing hydrographic survey reports. 1988 Order, at App. F14.

C. Proceedings Before the Arizona Supreme Court.

On September 26, 1989, the Arizona Supreme Court adopted its Special Procedural Order Providing for Interlocutory Appeals and Certifications ("Special Procedural Order"). *See* App. E. The court made this order specifically applicable to appeals of "any ruling of the superior court" in the Gila River Adjudication. Special Procedural Order, at App. E1. The text of the Special Procedural Order explains the court's purpose in issuing the order:

> The purpose of this order is to establish a procedure for early review of all substantial questions in this general adjudication of water rights. Early appellate review may avoid wasteful trial court proceedings, may result in substantial savings of time or expense, or may for other reasons be in the interests of justice.

Id., at App. E8.

After issuance of the Special Procedural Order, numerous parties petitioned the Arizona Supreme Court for review of various aspects of the trial court's 1988 Order. On December 11, 1990, the court granted review of six specific issues that it "reformulated" from among the many petitions filed regarding the trial court's order. *See* Orders Concerning Petitions for Interlocutory Review, December 11, 1990, at App. D. One of these six issues was the subject of the Opinion Below. Identified by the court as Issue Number 2, it was stated as:

> 2. Did the trial court err in adopting its 50%/90 day test for determining whether underground water is "appropriable" under A.R.S. § 45-141?

Id., at App. D2.

The Arizona Supreme Court answered this question in the affirmative. In doing so, the court expressly concluded that the 50%/90 day test was inconsistent with the requirement of Southwest Cotton that subflow is found only " 'within, or immediately adjacent, to' the stream bed." *Gila II*, 857 P.2d at 1245, at App. C21 (quoting *Southwest Cotton*, 4 P.2d at 381). The court specifically stated: "Whether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time." *Id.*, 857 P.2d at 1246, at App. C24. Consequently, the court vacated the 50%/90 day test, rejected the trial

court's "younger alluvium" test as too broad, reaffirmed *Southwest Cotton*'s narrow concept of subflow, and remanded the matter to the trial court to determine appropriate criteria for separating appropriable subflow from percolating groundwater. *See Gila II*, 857 P.2d at 1246-48, at App. C26-30.

D. Proceedings After Remand.

After the Arizona Supreme Court's opinion in *Gila II*, the trial court conducted further proceedings, including evidentiary hearings and a tour of the San Pedro River Basin (a portion of the larger Gila River Basin), to determine the criteria for defining subflow. Following the evidentiary hearings, the court issued its second ruling on the subject. *See* 1994 Order, at App. B. Specifically, the court adopted the "saturated floodplain Holocene alluvium" as the geologic unit that defines subflow. *Id.*, at App. B57. The court also ruled that "any well located outside the 'subflow' zone that now pumps any percentage of water either from the stream itself or its 'subflow' zone, should be included in the adjudication and the total amount of water withdrawn subjected to this [adjudication]." *Id.*, at App. B62.

Once again, numerous parties appealed the trial court's decision. Groundwater users, in particular, challenged the court's decision as being inconsistent with the narrow definition of subflow set forth in *Southwest Cotton*. The groundwater users also argued that the court's order was an unconstitutional judicial taking of private property because it radically and suddenly departed from established state law and effectively rewrote the definition of appropriable water under A.R.S. § 45-141.A.

The Arizona Supreme Court disagreed with the groundwater users' position and affirmed the 1994 Order.

See Opinion Below, 9 P.3d at 1083, at App. A33. The court also asserted that "landowners have no 'legally recognized property right in potential, future groundwater use.' " *Id.* (quoting *Gila I*, 830 P.2d at 451).

REASONS FOR GRANTING THE PETITION

This petition should be granted, and a writ of certiorari issued, because the Arizona Supreme Court, in rendering the Opinion Below, "has decided an important question of federal law that has not been, but should be, settled by this Court," and it has done so in a way that "conflicts with relevant decisions of this Court." Rule 10(c), Rules of the Supreme Court of the United States. Specifically, the Opinion Below, while retroactively changing Arizona water law in a way that invalidates vested property rights, summarily dismissed the arguments of groundwater users that such a sudden and unpredictable change in the law constitutes a taking of private property in violation of the Fifth Amendment. The court rejected these arguments without any analysis of this Court's precedents concerning the takings clause of the Fifth Amendment, and it did so in a way that clearly conflicts with those precedents.

Because of the enormous importance of this issue to millions of Arizona residents who depend on groundwater, as well as the citizens of other states who might be subject to sudden changes in judicial precedents announced by their state courts, this Court should grant this petition and issue a writ of certiorari to review the Opinion Below.

I. THE OPINION BELOW, BY UNPREDICTABLY EXPANDING THE DEFINITION OF SUBFLOW, TAKES PROPERTY FROM LANDOWNERS WHO RELIED ON THE FORMERLY NARROW DEFINITION WHEN DECIDING WHERE TO LOCATE AND INVEST IN WELLS.

A. Until the Opinion Below, "subflow" was always a narrow concept.

Under Arizona law, water is considered either appropriable or non-appropriable. *See* Opinion Below, 9 P.3d at 1073, App. A6. The primary category of water subject to appropriation is surface water "flowing in streams, canyons, ravines or other natural channels," together with a limited category of underground water flowing "in definite underground channels. . . . " A.R.S. § 45-141.A. In addition, the courts of Arizona have long held that the "narrow" category of underground "subflow" is considered "a part of the surface stream" and therefore subject to appropriation. *Southwest Cotton*, 4 P.2d at 380. *See also Gila II*, 857 P.2d at 1241, at App. C13.

Arizona courts have repeatedly held that subflow is a narrow concept, stating that it consists of "those waters which slowly find their way through the sand and gravel *constituting the bed of the stream, or the lands under or immediately adjacent to the stream*," *Southwest Cotton*, 4 P.2d at 380 (emphasis added); that "[i]n almost all cases the so-called subflow is found *within, or immediately adjacent to*, the bed of the surface stream itself," *id.* at 381 (emphasis added); and that " '*the water must be within the bed of the surface stream itself*. Otherwise such underground waters must be classified with percolating waters. . . . ' " *Gila II*, 857 P.2d at 1244, at App. C19 (quoting 2 Clesson S.

Kinney, The Law of Irrigation and Water Rights, § 1161, at 2110 (2d ed. 1912)) (emphasis added).

All other underground water, whether or not it is hydrologically connected to a surface stream, is considered "percolating" groundwater that is not subject to appropriation. As stated by the court in *Gila II*:

> The *Southwest Cotton* court examined Arizona statutes from 1864 and its previous decisions and reaffirmed its prior holding that percolating subterranean water was not subject to appropriation. [citation omitted] Language in the opinion makes it clear that the court meant that *all percolating water, however classified, was not subject to appropriation.*

Gila II, 857 P.2d at 1241, at App. C11 (emphasis added).

Instead, percolating groundwater is subject to the doctrine of reasonable use, *see Bristor*, 255 P.2d at 177, or to the statutory provisions of the Arizona Groundwater Code, A.R.S. § 45-401, *et seq.* Furthermore, Arizona courts have consistently applied a presumption "that underground waters are percolating in their nature" and required that one "who asserts that they are not must prove his assertion affirmatively by clear and convincing evidence." *Southwest Cotton*, 4 P.2d at 376.

This distinction is crucial. Under Arizona law, a person may not obtain an appropriative right to percolating groundwater. Yet the effect of the Opinion Below is to transform vast quantities of what had formerly been percolating goundwater into subflow that is suddenly subject to appropriation. Because the Gila River system is already significantly over-appropriated, all persons who have relied on this water will be left with no right to pump it, and the investments they have made in reliance on that water will be destroyed.

B. The Opinion Below approved a test of subflow that constitutes a sudden and unpredictable departure from all prior judicial precedents.

In the Opinion Below, the Arizona Supreme Court upheld a trial court ruling (the 1994 Order), that turns the narrow concept of subflow on it head. Specifically, the trial court adopted as its subflow zone the entire "saturated floodplain holocene alluvium." 1994 Order, at App. B54. The court did so in spite of its acknowledgement that this phrase is but another name for the "younger alluvium" already rejected as a subflow zone by the Arizona Supreme Court in *Gila II*. *Id.*

As the *Gila II* court stated:

> We believe the trial court's [original subflow test] expands the clear words of A.R.S. § 45-141(A) to include not only waters flowing in streams but, *potentially, waters pumped any place in the younger alluvium*. The court's order does not explain the rule's derivation. The [trial court's test] *does not comport* with the tests laid down in *Southwest Cotton*.

Gila II, 857 P.2d at 1247, at App. C26 (emphasis added).

In spite of this clear rejection of a subflow zone as broad as the entire younger alluvium, the trial court nevertheless adopted exactly that geologic unit as its subflow zone in the 1994 Order. By doing so, the trial court radically departed from the Arizona Supreme Court's consistently stated position that the subflow zone is "narrow." In fact, the record compiled by the trial court demonstrates just how broad this new subflow zone is. Specifically, the record indicates that the trial court's subflow zone is as broad as one to two miles wide in various locations in the San Pedro River Basin, and in at

least one location in this basin is estimated to be as much as five miles wide. Testimony of Thomas Gookin, transcript dated Feb. 2, 1994, at 35-37; Testimony of Oliver Page, transcript dated February 1, 1994, at 174. This very broad subflow zone, in a basin where the principal river channel is often only a few hundred feet wide,[2] simply cannot be squared with the narrow subflow zone adopted by *Southwest Cotton* and reaffirmed by *Gila II*.

The impact of this over-broad subflow zone is dramatic. Of the 3,364 registered wells in the San Pedro River Basin, approximately 1,262, or 38% of the total, are within the trial court's subflow zone. Testimony of Jon Ford, transcript dated Jan. 31, 1994, at 64-65. Many of these wells have been drilled in the years since *Southwest Cotton* was decided, and their owners were entitled to rely on that court's narrow concept of subflow. These well owners had no way of knowing that their wells would some day be subject to injunction by the holders of surface water rights. Moreover, even had these well owners attempted to obtain the protection of an appropriative water right for the water pumped from their wells, the Arizona Department of Water Resources (the state agency charged with administering appropriative water rights) would have rejected their applications for such rights. Record at D.N. 1113, Aff. of Richard Gessner.

The trial court's radical departure from prior precedents was further compounded by the "cones of depression" portion of its 1994 Order. In this section of the order (*see* App. B58-63), the trial court concluded that even a well located a significant distance from the already over-

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[2] *See, e.g.*, Record at Docket Number ("D.N.") 2299, Errol L. Montgomery and Associates, Inc., "Criteria for Determining Subflow" December 14, 1993, at 16.

broad subflow zone would be presumed to be pumping appropriable subflow if its cone of depression extends into the subflow zone and the well "pumps *any percentage* of water either from the stream itself or its 'subflow' zone." 1994 Order, at App. B62 (emphasis added). In such cases, "the total amount of water [whether subflow or not, would be] subjected to" the general stream adjudication. *Id.*

The record compiled by the trial court demonstrates just how broadly this sweeping declaration will apply. Specifically, the record identifies wells as far as six miles from the trial court's subflow zone from which the cones of depression extend into the zone. Record at D.N. 2297, Leonard Rice Consulting Water Engineers, Inc., "Methodology and Procedure for Identifying Subflow and Wells that Pump Subflow," December, 1993, at 55-63. Thus, under the trial court's cone of depression analysis, a well located *six miles* from the subflow zone, and even farther from the river itself, will be "subjected to" the adjudication and exposed to injunctions in favor of surface water appropriators. This is so in spite of the fact that the court in *Southwest Cotton* determined that water from some of the plaintiff's wells, also located up to six miles from the nearest surface stream, was non-appropriable percolating groundwater. *See Gila II*, 857 P.2d at 1240, fn. 4, at App. C10. The trial court's broad cone of depression analysis cannot be reconciled with the narrow concept of subflow previously adhered to by the courts in Arizona.

The 1994 Order, now approved by the Arizona Supreme Court, will subject the owners of numerous wells, and all persons and activities dependent on water pumped from such wells, to injunctions in favor of persons holding surface water rights. The trial court adopted

this position in spite of its acknowledgement that the San Pedro River "naturally and normally produces approximately 160,000 acre-feet of surface water per year"[3] and, in contrast, "the storage capacity of the San Pedro Aquifer . . . was 84 million acre-feet." 1994 Order, at App. B13. Thus, the Opinion Below will destroy the investments of thousands of people who depend on wells that draw from the 84 million acre-feet of groundwater in this basin, in favor of a limited number of surface water appropriators who draw on the 160,000 acre-feet of surface water in the basin. Similar results will occur in river basins throughout Arizona.

This is no small matter to groundwater users in Arizona. Even in a basin such as the San Pedro, with only a limited population base,[4] many millions of dollars have been invested in agricultural, industrial, commercial and municipal developments that are dependent on water withdrawn from wells. These wells are now subject to the court's over-broad subflow zone and even broader cone of depression ruling. Additional billions of dollars of investments have been made elsewhere in the state, and the lives and livelihoods of millions of Arizonans are dependent on water withdrawn from wells that were

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[3] An acre-foot is the amount of water required to cover a one acre surface one foot deep. It is equivalent to 325,851 gallons and is commonly considered to be a sufficient quantity to meet the needs of a typical family of four for a period of one year.

[4] Cochise County, Arizona, through which most of the length of the San Pedro River flows, has a population of 123,750, according to the County's official web site, http://www.co.cochise.az.us.

located in reliance on the narrow subflow zone of *Southwest Cotton*. All of these investments have been directly undercut by the 1994 Order and the Opinion Below.

C. The Opinion Below's approval of a broad subflow zone constitutes a sudden and unpredictable change in state law that destroys vested property rights.

In its 1994 Order, the trial court expressed its dissatisfaction with the *Gila II* opinion, noting that "[u]nfortunately, the term 'subflow,' which 'In re Gila' [*Gila II*] deals with, has no scientific meaning in the vocabulary of hydrologists or geologists." 1994 Order, at App. B26. Apparently, this dissatisfaction led the trial court to adopt a subflow zone that coincides with the already rejected "younger alluvium." However, as the *Gila II* court had already noted, "even though *Southwest Cotton* may be based on an understanding of hydrology less precise than current theories, it would be inappropriate to undo that which has been done in the past." *Gila II*, 857 P.2d at 1243, at App. C16-17. The *Gila II* court also acknowledged that the line drawn by *Southwest Cotton* between appropriable subflow and non-appropriable percolating groundwater is "artificial." *Id.* at 1246, at App. C25. Nevertheless, the court did "not feel free to redraw or erase that line." *Id.*

The reasons for this refusal to undo more than sixty years of precedent were very clearly stated by the *Gila II* court:

> We believe it is too late to change or overrule the case. More than six decades have passed since *Southwest Cotton* was decided. The Arizona legislature has erected statutory frameworks for regulating surface water and groundwater

> based on *Southwest Cotton*. Arizona's agricultural, industrial, mining, and urban interests have accommodated themselves to those frameworks. *Southwest Cotton* has been part of the constant backdrop for vast investments, the founding and growth of towns and cities, and the lives of our people.

Id., 857 P.2d at 1243, at App. C16. The court went on to note that it must approach any potential change in the law "with particular care when the prospective effect of change threatens important vested rights and may affect every Arizonan's well-being." *Id.*

Even in 1931, the *Southwest Cotton* court recognized the significance of its holding, stating that "[this] case is one of the most important which has ever come before this court, involving as it does . . . property interests of the value of many millions of dollars. . . . " and concluding that "these principles should be enunciated as clearly and definitely as possible, so that our citizens may know how to guide their future procedure." *Southwest Cotton*, 4 P.2d at 372.

Now, some seventy years later, millions of Arizonans have, in fact, relied on *Southwest Cotton's* clearly enunciated principles when making decisions about where to locate wells, and whether and where to invest many billions of dollars in agricultural, industrial, commercial and municipal developments dependent on those wells. The 1994 Order and the Opinion Below have directly undercut these investments by suddenly and unpredictably changing long-settled legal principles. Under the precedents of this Court, such a change in the law constitutes a taking of private property in violation of the Fifth Amendment to the Constitution of the United States.

II. THE OPINION BELOW, BY UNILATERALLY DECLARING THAT "LANDOWNERS HAVE NO LEGALLY RECOGNIZED PROPERTY RIGHT IN POTENTIAL, FUTURE GROUNDWATER USE," TAKES FROM LANDOWNERS BOTH JUDICIALLY DECLARED AND STATUTORILY ESTABLISHED PROPERTY RIGHTS TO USE GROUNDWATER.

In dismissing Petitioners' argument that the trial court's new subflow zone and its cone of depression analysis violate the takings clause of the Fifth Amendment, the Arizona Supreme Court quoted, out of context, a statement from its earlier opinion in *Gila I* that "landowners have 'no legally recognized property right in potential future groundwater use.' " Opinion Below, 9 P.3d at 1083, at App. A33 (quoting *Gila I*, 830 P.2d at 451).

In *Gila I*, this statement was made only in the context of the conclusion that groundwater users had been provided adequate notice, for due process purposes, that the "issue of when underground water is appropriable might be litigated in the adjudication." *Gila I*, 830 P.2d at 451. The court held that the notice provided to potential claimants of groundwater specifically instructed such claimants to inform the court of their claims. *Id.* Thus, the notice was sufficient regardless of the nature of any rights such claimants might have in groundwater, and the court's statement regarding potential future uses of groundwater was *dictum*. More importantly, in making the statement, the *Gila I* court misapplied a much more limited proposition from the earlier case of *Town of Chino*

Valley v. City of Prescott, 638 P.2d 1324 (Ariz. 1981), *appeal dismissed*, 457 U.S. 1101 (1982) ("*Chino Valley II*").[5]

A. Under Arizona law, the Doctrine of Reasonable Use is a rule of property that may only be prospectively modified by the Legislature.

In *Chino Valley II*, the court held that rights to use groundwater may be "modified *prospectively by the Legislature.*" *Id.*, at 1327 (emphasis added). This proposition is true. It is also a statement of limited scope. As the Arizona Supreme Court went on to note, "courts will adhere to an announced rule to protect rights acquired under it and that if any change in the law is necessary, it should be made by the Legislature." *Id.* Thus, *Chino Valley II* is not inconsistent with, and did not purport to overrule, a long line of cases that have concluded a landowner's right to withdraw and use groundwater is a property right entitled to protection.

For example, the Arizona Supreme Court has held that:

> At the outset it must be conceded that the interests which petitioners seek to protect are property rights. We recognized in *Farmers Investment Company v. Bettwy* [citation omitted] that the doctrine of reasonable use as judicially determined in Arizona *had become a rule of property* and was entitled to protection as such.

Town of Chino Valley v. State Land Dep't, 580 P.2d 704, 709 (Ariz. 1978) ("*Chino Valley I*") (emphasis added).

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[5] As the court itself acknowledged in *Chino Valley II*, "[d]ictum thrice repeated is still dictum." *Id.*, 638 P.2d at 1327.

Similarly, in deciding to uphold the doctrine of reasonable use for percolating groundwater, and reconfirming that such groundwater is not subject to appropriation, the Arizona Supreme Court held that:

> Whether we should . . . , after approximately fifty years' operation under [the doctrine of reasonable use], depart therefrom depends upon many questions, the most important of which is the protection of property rights acquired upon the faith of this court's announcement of the law.
>
> . . . .
>
> It is generally so well known that we take judicial notice that, with faith in the foregoing declaration and assurance of this court, many and large investments have been made in the development of ground waters. Under these circumstances the court's announcement of the rule becomes a rule of property . . . ; and when a decision does become a rule of property, the rights acquired thereunder are entitled to protection under the law as declared.

Bristor, 255 P.2d at 175 (citation omitted).[6]

Chino Valley II is not to the contrary. It merely acknowledges the fact that the Legislature may *prospectively* regulate groundwater uses in a legitimate exercise of its police power to protect public health and safety. It does not stand for the much broader proposition that a landowner has "no legally recognized property right in

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[6] *See also Jarvis v. State Land Dep't*, 479 P.2d 169, 172-73 (Ariz. 1970), *modified on other grounds*, 550 P.2d 227 (Ariz. 1976) (right to pump and transport groundwater "is a rule of law controlled by the doctrine of reasonable use and protected by the constitution of the state as a right of property").

potential, future groundwater use." In making this statement in the Opinion Below, the Arizona Supreme Court has repudiated nearly 100 years of judicial precedent and, without warning, obliterated a property right upon which millions of Arizonans are dependent, and in reliance on which billions of dollars of investments have been based.

B. The Arizona Legislature has created numerous statutory rights to future use of groundwater.

In 1980, the Arizona Legislature enacted the Groundwater Management Act. The Act statutorily confirmed the doctrine of reasonable use, *see* A.R.S. § 45-453, and also enacted the Groundwater Code, which comprehensively regulates groundwater rights and uses in "Active Management Areas" ("AMAs") within the state. These AMAs encompass the major population centers of Arizona, including the Phoenix and Tucson metropolitan areas, as well as the Prescott area and the major agricultural regions of Pinal County. Collectively, these AMAs are home to more than 3.5 million people,[7] and they are the location for thousands of acres of irrigation-dependent agriculture and many large industrial facilities, including mines and power plants operated by Petitioners. All of these residents, much of the agriculture, and numerous industrial operations are dependent, at least in part, upon groundwater withdrawn under the provisions of the Groundwater Code.

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[7] This figure is taken from the AMAs' Third Management Plans and other reports on the Arizona Department of Water Resources website, http://www.water.az.gov.

Among those provisions are numerous examples of statutorily established rights to pump and use groundwater within AMAs. For example, Irrigation Grandfathered Rights have been established for persons who were engaged in irrigation of lands within AMAs during specified periods of time prior to establishment of the AMA in question. *See* A.R.S. § 45-465. Persons who have retired their lands from active irrigation and who meet specified criteria are entitled to pump groundwater for non-irrigation purposes pursuant to Type 1 Non-Irrigation Grandfathered Rights. *See* A.R.S. § 45-463. Similarly, Type 2 Non-Irrigation Grandfathered Rights are based on historical uses of groundwater for non-agricultural purposes. *See* A.R.S. § 45-464. Although these rights were established based on historical water use, they all provide landowners with a right to continue pumping groundwater into the future.

In addition, several types of groundwater rights within AMAs are based on projected, rather than historical, use of groundwater. For example, under specified circumstances, groundwater use permits "shall" be issued to persons who are "engaged in or propose[ ] to engage in" mineral extraction and processing. A.R.S. §§ 45-513 and 45-514. The Groundwater Code also mandates issuance of groundwater permits for general industrial uses when statutory requirements are satisfied. *See* A.R.S. § 45-515. Most significantly, a municipality or private water company within an AMA has a statutory right to "withdraw and transport groundwater within its service area for the benefit of landowners and residents within its service area, and the landowners and residents are entitled to use the groundwater delivered," subject only to restrictions on transportation of groundwater across

groundwater basin boundaries and conservation requirements promulgated by the Arizona Department of Water Resources. A.R.S. § 45-492.A. These "service area rights" may expand to meet the demands of expanding populations, regardless of the quantity of past withdrawals. *Id.*

As these statutory provisions demonstrate, there are numerous instances where landowners have very clear, and very valuable, rights to "potential, future groundwater use." Moreover, these rights are just as clearly "property" for purposes of the takings clause of the Fifth Amendment.[8] In Arizona, as in much of the arid west, the right to use water is an essential element of the right to make productive use of one's land. While the right to use water can be regulated prospectively by the Legislature, *see Chino Valley II*, 638 P.2d at 1327,[9] a court may not retroactively destroy that right through the mere expedient of declaring that it never existed in the first place.

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[8] For example, Type 2 non-irrigation grandfathered rights established pursuant to A.R.S. § 45-464 have an established market value, and are regularly purchased, sold and leased by water users in AMAs.

[9] The statutory rights created by the Groundwater Code are subject to regulation by the Arizona Department of Water Resources pursuant to the provisions of the Code and management plans promulgated by the Department pursuant to A.R.S. Title 45, Chapter 2, Article 9.

III. THE FIFTH AMENDMENT PROHIBITS SUDDEN AND UNPREDICTABLE CHANGES IN JUDICIAL PRECEDENT AND REDEFINITIONS OF PRIVATE PROPERTY THAT TAKE VESTED RIGHTS WITHOUT COMPENSATION.

The takings clause of the Fifth Amendment has been the subject of extensive analysis by this Court over the course of many years. From scores of cases, the Court has distilled several basic principles of "takings" law. First, the takings analysis requires "essentially *ad hoc*, factual inquiries" to determine whether the government action in question has "interfered with distinct investment-backed expectations. . . . " *Penn Central Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978). Second, the Court has analyzed whether the government action "interfere[d] with interests that were sufficiently bound up with the reasonable expectations of the claimant to constitute 'property' for Fifth Amendment purposes." *Id.* at 125. The Court has also held that government actions denying "all economically beneficial or productive use of land" categorically violate the Fifth Amendment. *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015 (1992).

In addition, although rights in private property generally are determined by reference to state law, "if the protection against physical appropriations of private property [is] to be meaningfully enforced, *the government's power to redefine the range of interests included in the ownership of property* [is] *necessarily constrained by constitutional limits.*" *Id.* at 1014 (emphasis added) (citing *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922)). Put another way, "a State, by *ipse dixit*, may not transform private property into public property without

compensation. . . . " *Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 164 (1980).

Under these principles, the Opinion Below must be subjected to an *ad hoc* factual inquiry to determine whether it has interfered with reasonable, distinct, investment-backed expectations regarding property interests in percolating groundwater. The Opinion Below also must be scrutinized to determine whether it will deny all economically beneficial use of the land of those persons who invested in wells in reliance on the prior pronouncements of the Arizona Supreme Court and the Arizona Legislature. Furthermore, the Opinion Below cannot stand simply by redefining the property interest in percolating groundwater in a way that better suits the court's current views. On each of these points, the Opinion Below fails to satisfy this Court's standards for determining whether government action is consistent with the requirements of the Fifth Amendment.

As was discussed above, billions of dollars have been invested over many years in reliance on the narrow subflow zone of *Southwest Cotton* and the non-appropriable nature of percolating groundwater in Arizona. The Arizona Supreme Court has repeatedly recognized this fact. *See Southwest Cotton*, 4 P.2d at 372; *Bristor*, 255 P.2d at 175; *Jarvis*, 479 P.2d at 172-73; *Chino Valley I*, 580 P.2d at 709; *Gila II*, 857 P.2d at 1243, at App. C16. With this long line of cases providing repeated reassurance that the rules regarding percolating groundwater were rules of property and would be respected, the expectations of all who made investments dependent on such groundwater were plainly reasonable.

The Opinion Below, by unpredictably expanding the subflow zone and broadening its reach even farther

through the cone of depression analysis, and by declaring that landowners have no property right in potential future groundwater use, has destroyed the reasonable investment-backed expectations of millions of Arizonans. Using the broad scope of the Opinion Below, a limited number of surface water appropriators now will be able to enjoin groundwater pumping from thousands of wells throughout the Gila and Little Colorado River Basins. Those who depend on that groundwater will be left without recourse. They could not have obtained an appropriative water right at the time the wells were drilled,[10] and it would do no good to obtain one now because the Gila and Little Colorado Rivers are significantly over-appropriated. *See, e.g., United States v. Superior Court*, 697 P.2d at 663. All landowners who find themselves in this position will be denied *any* economically beneficial or productive use of their land because *all* uses of land in Arizona are directly dependent on access to water.

In the Opinion Below, the Arizona Supreme Court turned its back on a century of Arizona water law and vitiated both statutory and judicially-recognized water rights upon which millions of Arizona residents depend. Although the court may have acted out of a sense of frustration with the perceived inaction of the Arizona Legislature,[11] even "a strong public desire to improve the

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[10] *See* Record at D.N. 1113, Aff. of Richard Gessner.

[11] At oral argument, a Justice of the Arizona Supreme Court made the following statement in response to a point made by counsel for the groundwater users:

> The problem – I wish the problem was as easy as you put it. The statute talks about stream water and other statutes talk about groundwater. But the problem is, somewhere you have to draw the line in order to

public condition is not enough to warrant achieving the desire by a shorter cut than the constitutional way of paying for the change." *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 416 (1922). Here, the Arizona Supreme Court has not even acknowledged that its opinion retroactively changes essential rules of property, much less offered any payment for the change. For this reason, the Opinion Below violates the takings clause of the Fifth Amendment.

While the Arizona Supreme Court asserted that its decision is consistent with its prior precedents, 9 P.3d at 1080, at App. A25-26, it is simply not possible to reconcile the Opinion Below with a fair reading of *Southwest Cotton* and *Gila II*. As this Court held in *Webb's Fabulous Pharmacies*, "[n]either the Florida Legislature by statute, *nor the Florida courts by judicial decree*, may accomplish the result the county seeks simply by recharacterizing" property. 449 U.S. at 164 (emphasis added). Likewise, the Arizona Supreme Court may not dispense with the property rights of groundwater users merely by declaring that those rights did not exist in the first place.

> determine which is which. And the Legislature has not seen fit to tell us where the line is. So the courts, for 70 years or 80 years, have tried to struggle to find out – to draw – sort of an artificial line. And *Gila II* invited the Legislature to do what legislators ought to do in this, and to make that line – that that's where the line should be drawn. But they have not done anything about it. And so here we are again, asking, probably in the worst place of all to solve the problem, and somebody's got to draw the line. And so the question is really where the line is.

Videotape of Oral Argument, December 7, 1999.

While this Court has not directly addressed whether a radical departure by a state court from its prior precedents may constitute a taking, Justice Stewart recognized this point more than 30 years ago in *Hughes v. Washington*, 389 U.S. 290 (1967) (Stewart, J., concurring). In *Hughes*, Justice Stewart concluded that the Supreme Court of Washington could not "be permitted to defeat the constitutional prohibition against taking property without due process of law by the simple device of asserting retroactively that the property it has taken never existed at all." *Id.* 389 U.S. at 296-97 (Stewart, J. concurring).

Although not a holding of this Court, Justice Stewart's statement is entirely consistent with *Webb's Fabulous Pharmacies* and numerous other pronouncements of the Court. Under all of these cases, neither a legislature nor a court may retroactively revoke vested property rights.[12] Because the Opinion Below does so, it violates the takings clause of the Fifth Amendment to the Constitution of the United States.

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[12] The Arizona Supreme Court itself has recognized this principle in the context of legislative changes affecting vested water rights. *San Carlos Apache Tribe v. Superior Court*, 972 P.2d 179, 189 (Ariz. 1999) (noting that "legislation may not disturb vested substantive rights by retroactively changing the law that applies to completed events. . . . We agree . . . that the water rights of the parties in the Gila and Little Colorado general stream adjudications are vested substantive property rights.") (citations omitted).

CONCLUSION

For the foregoing reasons, the Court should grant this petition for writ of certiorari.

Dated, Phoenix, Arizona, March 19, 2001.

Respectfully submitted,

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PETITION FOR WRIT OF CERTIORARI
ISSUE TWO
APPENDIX

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APPENDIX A

Supreme Court of Arizona.

In re the GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN the GILA RIVER SYSTEM AND SOURCE

Nos. WC-90-0001-IR, WC-90-0002-IR, WC-90-0003-IR, WC-90-0004-IR, WC-90-0005-IR, WC-90-0006-IR, WC-90-0007-IR, WC-79-0001, WC-79-0002, WC-79-0003, WC-79-0004.

9 P.3d 1069

Sept. 22, 2000.

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Jennings, Strouss & Salmon, P.L.C. By: M. Byron Lewis, John B. Weldon, Jr. Stephen E. Crofton, Phoenix, Attorneys for Salt River Project Agricultural Improvement and Power District, and Salt River Valley Water Users' Association.

United States Department of Justice By: Lois J. Schiffer, Robert L. Klarquist, David C. Shilton, Gary B. Randall, F. Patrick Barry, Washington, D.C., Attorneys for United States.

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Chandler, Tullar, Udall & Redhair By: Stephen B. Weatherspoon, Tucson, Attorneys for The Nature Conservancy.

Sparks & Siler, P.C. By: Joe P. Sparks, John H. Ryley, Kevin T. Tehan, Scottsdale, Attorneys for San Carlos Apache Tribe, Tonto Apache Tribe, and Yavapai Apache Tribe.

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John S. Schaper, Phoenix, Attorney for Buckeye Irrigation Company and Buckeye Water Conservation and Drainage District.

Ulrich & Anger, P.C. By: William H. Anger, Paul G. Ulrich, Phoenix, Attorneys for the Cities of Chandler, Glendale, Mesa, and Scottsdale.

PELANDER, Judge.

¶ 1 This appeal again presents the second of six issues on which we granted interlocutory review in the

Gila River general stream adjudication. The facts and procedural history of this case are set forth in detail in *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source,* 175 Ariz. 382, 384-86, 857 P.2d 1236, 1238-40 (1993) (*"Gila River II"*), and in *In re Rights to the Use of the Gila River,* 171 Ariz. 230, 232-33, 830 P.2d 442, 444-45 (1992) (*"Gila River I"*). In short, the primary issue we consider here is whether, after remand in *Gila River II,* the trial court properly determined what underground water constitutes "subflow" of a surface stream, thus making it appropriable under A.R.S. § 45-141(A).[1]

¶ 2 Based on its consideration of extensive evidence presented on remand, including the opinions of multiple experts, the trial court defined "subflow" as the " 'saturated floodplain Holocene alluvium' "[2] because "[t]he

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[1] Section 45-141(A), A.R.S., states:

> The waters of all sources, flowing in streams, canyons, ravines or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to appropriation and beneficial use as provided in this chapter.

[2] "Holocene" refers to the Holocene epoch, which is that part of the Quaternary period that covers approximately the most recent 10,000 years. During that time frame, floods caused rivers to carry and deposit certain materials that originated from erosion of bedrock and basin fill deposits. The "Holocene alluvium," also referred to as the younger or floodplain alluvium, is the sedimentary material in a river valley that resulted from that process. *See* American Geological Institute, *Glossary of Geology* 17, 301 (Julia A. Jackson, ed., 1997).

weight of the evidence" pointed to that geological unit "as the most credible 'subflow' zone." We conclude, and the parties conceded at oral argument, that the record reasonably supports that central finding as well as the trial court's related findings. We further conclude that the trial court's ruling is not invalidated by this court's prior decisions relating to subflow. *See Gila River II; Maricopa County Mun. Water Conservation Dist. No. One v. Southwest Cotton Co.*, 39 Ariz. 65, 4 P.2d 369 (1931). Finally, the ruling comports with hydrological reality as it is currently understood. *See In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 195 Ariz. 411, ¶ 9, 989 P.2d 739, ¶ 9 (1999) ("*Gila River III*"). For these reasons, we affirm the trial court's order in its entirety.

I. GENERAL PRINCIPLES OF SUBFLOW

¶ 3 In *Gila River II*, we explained the importance of distinguishing between groundwater and surface water. 175 Ariz. at 386, 857 P.2d at 1240. Essentially, our bifurcated system of allocating water rights differentiates groundwater users from surface water users. By statute, surface water is subject to the doctrines of prior appropriation and beneficial use. *See* A.R.S. §§ 45-141(A), 45-251(7). Percolating groundwater, on the other hand, is not appropriable and may be pumped by the overlying landowner, subject to the doctrine of reasonable use, *Gila River II*, 175 Ariz. at 386, 857 P.2d at 1240; *Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953), and the federal reserved water rights doctrine discussed in *Gila River III*.

¶ 4 The boundary between surface water and groundwater is not at all clear. Most surface streams not only flow above the ground but also have "subflow." As the parties correctly point out, "subflow" is not a scientific, hydrological term. But for almost seventy years, this court has defined "subflow," for legal purposes, as "those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream." *Southwest Cotton*, 39 Ariz. at 96, 4 P.2d at 380. *See also Gila River II*, 175 Ariz. at 390 n. 9, 857 P.2d at 1244 n. 9, *quoting Black's Law Dictionary* 1425 (6th ed.1990); 2 Clesson S. Kinney, *A Treatise on the Law of Irrigation and Water Rights* § 1161, at 2106-07 (2d ed.1912) ("subflow" is "the broad and deep subterranean volume of water which slowly flows through the sand and gravel underlying most, if not all, of the streams which traverse the country adjacent to the mountain systems of the arid region").

¶ 5 As we noted in *Gila River III*, "[t]he notion of 'subflow' is significant in Arizona law, for it serves to mark a zone where water pumped from a well so appreciably diminishes the surface flow of a stream that it should be governed by the same law that governs the stream." 195 Ariz. 411, ¶ 8, 989 P.2d 739, ¶ 8. In addition, "subflow" is "probably much greater in volume in some cases than the water upon the surface, and [is] . . . a valuable portion of the well-defined surface stream." Kinney, *supra* at 2107. Because subflow is considered part of the surface stream, it is appropriable as such under § 45-141(A). *See Gila River II*, 175 Ariz. at 387, 857 P.2d at 1241. *See also Gila River III*, 195 Ariz. 411, ¶ 8, 989 P.2d

739, ¶ 8. Under Arizona's bifurcated system of managing surface and groundwater, the concept of subflow serves to protect appropriable surface water rights against interference caused by the pumping of groundwater. Because water is a very precious and limited commodity in Arizona, much turns on how "subflow" is determined.

¶ 6 Underground waters are presumed to be percolating and, therefore, not appropriable as subflow. *Southwest Cotton*, 39 Ariz. at 85, 4 P.2d at 376. One who asserts that underground water is a part of a stream's subflow must prove that fact by clear and convincing evidence. *Id.* "If [the Department of Water Resources (DWR)] uses the proper test and relies on appropriate criteria for determining whether a well meets the test, its determination that a well is pumping appropriable subflow constitutes clear and convincing evidence." *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246. Thus, it is critical that any test used for determining the boundaries of a subflow zone be as accurate and reliable as possible. Otherwise, use of an inaccurate test to determine whether a well is pumping subflow would not satisfy the clear and convincing evidentiary standard and would improperly shift the burden to the groundwater user to show that its well is not pumping subflow. *See id.* at 388-89, 857 P.2d at 1242-43.

II. GILA RIVER II

¶ 7 In *Gila River II*, we considered whether the trial court had erred "in adopting its 50%/90 day test for determining whether underground water is 'appropriable' under A.R.S. § 45-141." 175 Ariz. at 386, 857 P.2d at 1240. Under that test, a well would be presumed to be

pumping appropriable subflow if "the volume of stream depletion would reach 50% or more of the total volume pumped during . . . [a] period of withdrawal [that] is equivalent to 90 days of continuous pumping for purposes of technical calculation." *Id.* at 385, 857 P.2d at 1239. Holding that "the 50%/90 day test for identifying wells presumed to be pumping subflow is inconsistent with *Southwest Cotton* and should not be used," *id.* at 392, 857 P.2d at 1246, we vacated that portion of the trial court's order and remanded the case for the court "to take evidence and, by applying the principles contained in [the *Gila River II*] opinion, determine the criteria for separating appropriable subflow from percolating groundwater." *Id.* at 394, 857 P.2d at 1248.

¶ 8 In so holding, we reaffirmed the principles set forth in *Southwest Cotton*, noting that our role was to interpret, not to expand or in any way change, the holdings in that case. *Id.* at 389, 857 P.2d at 1243. The *Southwest Cotton* court observed that, "[i]n almost all cases the so-called subflow is found within, or immediately adjacent to, the bed of the surface stream itself." 39 Ariz. at 97, 4 P.2d at 381. The court articulated the following test for determining whether a well is pumping subflow:

> *Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream?* If it does, it is subflow, and subject to the same rules of appropriation as the surface stream itself; if it does not, then, although it may originally come from the waters of such stream, it is not, strictly speaking, a part thereof, but is subject to the rules applying to percolating waters.

Id. at 97, 4 P.2d at 380-81.

¶ 9 In *Gila River II*, we adhered to that test and reaffirmed what we described as "*Southwest Cotton's* narrow concept of subflow." 175 Ariz. at 393, 857 P.2d at 1247. We rejected the trial court's 50%/90 day test in part because of the potential that, under that test, all wells in an alluvial valley could be said to be pumping appropriable subflow. *Id.* at 391, 393, 857 P.2d at 1245, 1247. The 50%/90 day test was "broad enough to include all underground water hydraulically connected to a surface stream." *Id.* at 391, 857 P.2d at 1245. Thus, the test was "at odds with *Southwest Cotton's* statement that subflow is found within or immediately adjacent to the stream bed." *Id.*

¶ 10 We discussed that problem at some length in *Gila River II*. *See* 175 Ariz. at 390-92, 857 P.2d at 1244-46. Specifically, the 50%/90 day test did not distinguish between wells pumping groundwater from tributary aquifers and those pumping actual subflow of the river. Tributary aquifers are

> those waters which infiltrate their way through the adjoining ground to some surface water course or other body of surface water. These waters differ from the [sub]flow of surface streams in the fact that *they have not yet reached the channels of the water courses to which they are tributary;* while, upon the other hand, the [sub]flow of surface streams ha[s] reached these channels and are therefore dealt with as component parts of such streams.

Kinney, *supra* § 1193, at 2162 (footnotes omitted) (emphasis added). *See also Gila River II*, 175 Ariz. at 389 n.

7, 857 P.2d at 1243 n. 7 ("A tributary aquifer is an aquifer having a direct hydraulic connection with a stream or with another aquifer that has such a connection."). Water in underground tributary aquifers is not a part of the surface stream and may not be considered subflow. *See Gila River II*, 175 Ariz. at 391, 857 P.2d at 1245 (noting that, under *Southwest Cotton*, subflow and tributary groundwater are "two different classes of underground water. The former is subject to appropriation . . . ; the latter is not."). But, "[g]iven enough time, and with certain exceptions, all extractions from a tributary aquifer will cause a more- or-less corresponding depletion from stream flow volume." *Id.* Thus, under the 50%/90 day test, the water in underground tributary aquifers would have been included as subflow if the volume and time requirements were met, even though that water is specifically excluded under *Southwest Cotton*.

¶ 11 The arbitrariness of the 50%/90 day test also influenced our decision in *Gila River II*. *Id.* at 392, 857 P.2d at 1246. We stated that "[w]hether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time. . . . [I]t turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium." *Id.* We also suggested that a proper test might compare "such characteristics as elevation, gradient, and perhaps chemical makeup" of the surface stream and underground water. *Id.* In addition, "[f]low direction can be an indicator. If the water flows in the same general direction as the stream, it is more likely related to the stream." *Id.*

¶ 12 In sum, we rejected the trial court's 50%/90 day rule because it conflicted with *Southwest Cotton* and arbitrarily set time and volume limits rather than determining the nature of the water being pumped. *Id.* at 391- 92, 857 P.2d at 1245-46. In contrast, as discussed below, the order at issue here resulted from the trial court's exhaustive effort, based on application of the pertinent factors set forth in *Gila River II*, to determine "whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium." *Id.* at 392, 857 P.2d at 1246.

III. PROCEEDINGS AND ORDER AFTER REMAND

¶ 13 On remand, the trial court held a ten-day evidentiary hearing, during which ten experts in the fields of geology and hydrology testified. The court also spent two days traveling almost 600 miles in the San Pedro River basin. A "large number of counsel" and several experts accompanied the court on that trip. At each of the thirteen sites visited, each expert was allowed to explain the geology and hydrology of the site. In its order, the trial court noted that a transcript prepared from audio tapes made on the trip "is 258 pages because at nearly every site discussion was lengthy, often at odds, and sometimes heated." In addition, statements were taken from several long-time residents of the valley "who were witnesses to facts of historical significance with regard to the river." Four months after the field trip, the trial court held a two-day supplemental evidentiary hearing, the purpose of which was to evaluate "any changes in the location or size of the principal channel of the river or the

riparian vegetation areas adjacent to the river," as shown in aerial photographs taken fifty-five years apart.

¶ 14 In its order after remand, the trial court stated:

> [T]his Court has reviewed all of the testimony given, all of the exhibits, participated fully in the field trip and read all of the briefs. It also re-examined the testimony and exhibits of the 1987 evidentiary hearing on the relationship of groundwater to surface water. It finds a sufficient foundation of facts needed to rule on the issues presented.

The comprehensive, detailed order itself confirms those statements. It is sixty-six pages long, with thirty-six additional pages of exhibits. The order and the record as a whole clearly reflect that the trial court allowed the parties to fully present evidence and to advocate their positions and thoughtfully considered the complex issues presented here.[3]

IV. DISCUSSION

A. Definition of subflow zone

¶ 15 Although "subflow" is a purely legal, not scientific, term, defining its boundaries is not only difficult at best but also turns ultimately on resolution of factual questions. We, of course, must defer to the trial court's factual findings as long as the record supports them. *See* Ariz. R. Civ. P. 52(a), 16 A.R.S. ("Findings of fact . . . shall

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[3] The record includes not only transcripts of the evidentiary hearings, but also numerous reports, drawings, charts, and other exhibits.

not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of witnesses."); *Scottsdale Unified Sch. Dist. No. 48 v. KPNX Broadcasting Co.*, 191 Ariz. 297, ¶ 20, 955 P.2d 534, ¶ 20 (1998).

¶ 16 The trial court's order describes in detail the evidence presented at the hearings and fully explains the reasons for its conclusions. Moreover, the record reflects that the court based its ruling on evaluation of the pertinent factors set forth in *Gila River II* for delineating the subflow zone. For example, the order states:

> After consideration of flow direction, water level elevation, the gradation of water levels over a stream reach, the chemical composition if available, and lack of hydraulic pressure from tributary aquifer and basin fill recharge which is perpendicular to stream and "subflow" direction, the Court finds the most accurate of all the markers is the edge of the saturated floodplain Holocene alluvium.

¶ 17 The trial court found that the younger Holocene alluvium "is the only stable geologic unit which is beneath and adjacent to most rivers and streams, except those in the mountains where bedrock surrounds the flow." The court then elaborated:

> Also, in order to fulfill the definition of "subflow," the geologic unit must be saturated because of the need for a hydraulic connection between the stream and the "subflow." Further definition requires "subflow" to be a part of the surrounding floodplain of the stream basin. Those parts of the alluvial plain which it may be a part of or which it is connected to must be the

alluvial plain of a perennial or intermittent stream and *not* an ephemeral stream or a part of the alluvial plain of a tributary aquifer even if there is an alluvial connection. Where the alluvial plain of tributary aquifers or ephemeral streams connects to the floodplain Holocene alluvium of the stream itself and provides tributary or basin fill recharge, that tributary aquifer must also be excluded because its flow direction is different and often perpendicular to the stream-flow direction.

The evidence here shows that the only true geologic unit which is beneath and adjacent to the stream is the floodplain Holocene alluvium. When it is saturated, that part of the unit qualifies as the "subflow" zone, where the water which makes up the saturation flows substantially in the same direction as the stream, and the effect of any side discharge from tributary aquifers and basin fill is overcome or is negligible. Because low-flow streams like the San Pedro meander back and forth in a series of "S" curves within a wider principal or dynamic channel, flow direction must be the general overall direction of the stream. As [DWR expert] Steve Erb testified, as long as the subflow's direction is within 45 degrees of that general stream flow direction, the flow direction requirement is met.

If we add the following additional criteria, then even more certainty and reliability is provided. *First*, the water level elevation of the "subflow" zone must be relatively the same as the stream flow's elevation. *Second*, the gradient of these elevations for any reach must be comparable with that of the levels of the stream

> flow. *Third,* there must be no significant difference in chemical composition that cannot be explained by some local pollution source which has a limited effect. *Fourth,* where there are connecting tributary aquifers or floodplain alluvium of ephemeral streams, the boundary of the "subflow" zone must be at least 200 feet inside of that connecting zone so that the hydrostatic pressure effect of the side recharge of this tributary aquifer is negligible and the dominant direction of flow is the stream direction. *Fifth,* where there is a basin-fill connection between saturated zones of the floodplain Holocene alluvium and a saturated zone of basin fill, the boundary of the "subflow" zone must be 100 feet inside of the connecting zone so that the hydrostatic pressure effect of the basin-fill's side discharge is overcome and the predominant direction of flow of all of the "subflow" zone is the same as the stream's directional flow. . . .
>
> The weight of the evidence points to the saturated floodplain Holocene alluvium as the most credible "subflow" zone. Its lateral and vertical limits have existed for some 10,000 or more years. It has far more stability of location than any other proposal including the principal channel which changes approximately every three years, or the post-1880 depositional layer which is really "post-1937" at best, or "post-1955" as indicated in the Hereford Report. . . .

¶ 18 In sum, the trial court complied with *Gila River II* by applying the factors set forth therein to the various theories advanced by the parties. The court ultimately concluded:

1. A "subflow" zone is adjacent [to] and beneath a perennial or intermittent stream and not an ephemeral stream.

2. There must be a hydraulic connection to the stream from the saturated "subflow" zone.

3. Even though there may be a hydraulic connection between the stream and its floodplain alluvium to an adjacent tributary aquifer or basin-fill aquifer, neither of the latter two or any part of them may be part of the "subflow" zone.

4. That part of the floodplain alluvium which qualifies as a "subflow," beneath and adjacent to the stream, must be that part of the geologic unit where the flow direction, the water level elevations, the gradations of the water level elevations and the chemical composition of the water in that particular reach of the stream are substantially the same as the water level, elevation and gradient of the stream.

5. That part of the floodplain alluvium which qualifies as a "subflow" zone must also be where the pressure of side recharge from adjacent tributary aquifers or basin fill is so reduced that it has no significant effect on the flow direction of the floodplain alluvium. . . .

6. Riparian vegetation may be useful in marking the lateral limits of the "subflow" zone[,] particularly where there is observable seasonal and/or diurnal variations in stream flow caused by transpiration. However, riparian vegetation on alluvium of a tributary aquifer or basin fill cannot extend the limits of the "subflow" zone outside of the lateral limits of the saturated floodplain Holocene alluvium.

> 7. All wells located in the lateral limits of the "subflow" zone are subject to the jurisdiction of this adjudication no matter how deep or where these perforations are located. However, if the well owners prove that perforations are below an impervious formation which preclude[s] "drawdown" from the floodplain alluvium, then that well will be treated as outside the "subflow" zone.
>
> 8. No well located outside the lateral limits of the "subflow" zone will be included in the jurisdiction of the adjudication unless the "cone of depression" caused by its pumping has now extended to a point where it reaches an adjacent "subflow" zone, and by continual pumping will cause a loss of such "subflow" as to affect the quantity of the stream.

¶ 19 As they did in the trial court, most of the groundwater users urge us to limit the subflow zone to the post-1880 entrenchment channel, which resulted from a process in which a stream eroded downward so as to form a trench. The entrenchment channel is part of and lies within the younger alluvium. According to the groundwater users, that channel extends downward to the vertical boundary of the post-entrenchment alluvium and is laterally narrower than the younger alluvium.

¶ 20 Relying primarily on the testimony of their principal expert, Dr. Errol Montgomery, the groundwater users contend the post-1880 entrenchment channel is a well-known, well-documented, and easily identifiable geological unit found throughout the Southwest and is the only reliable marker of the subflow zone. They argue that only that channel satisfies *Gila River II* because it is

more closely related to the stream than to the surrounding alluvium, it transports underground water beneath and immediately adjacent to the surface stream, and pumping from it has a direct and appreciable impact on the stream flow.

¶ 21 The trial court rejected the post-1880 entrenchment channel and other alternative proposals for defining the subflow zone.[4] Those who urge the post-1880 entrenchment channel as the most appropriate subflow zone essentially contend that the weight of the evidence supported that result and that the trial court misinterpreted the evidence in rejecting it.

¶ 22 We note, however, that Montgomery testified that his master's thesis did not even mention or map the post-1880 entrenchment area because it would not be "called out" in most geological investigations that address the principal geological units. Rather, Montgomery stated, "it's only for special purposes, special studies that a unit like the post-1880 would be delineated." He also expressed doubt that DWR would be able to recognize the distinction. Montgomery further testified that "the boundary that can be recognized below the subsurface is going to be the boundary between the Holocene alluvium and the basin fill deposits, because there's not

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[4] Some groundwater users proposed that the subflow zone be defined by the banks or edge of the stream's principal channel. And, The Nature Conservancy proposed, inter alia, that the subflow zone should be defined by the riparian zone, that is, the geographic area that phreatophytes had occupied in predevelopment times. The trial court rejected those proposals.

only a lithologic or textural change there, but there's a cementation change."

¶ 23 In addition, other expert testimony refuted the reliability of the post-1880 entrenchment as the designation of subflow zone. For example, Steve Erb of DWR testified that, although any of the proposals presented to the trial court might possibly satisfy this court's criteria in *Gila River II*, the younger alluvium is as close as anything to a natural boundary where subflow occurs. He further testified that DWR anticipated difficulty in identifying a subflow zone based on post-1880 entrenchment due to the lack of lithologic distinction between the ages of the younger alluvium. Similarly, Allen Gookin, who testified on behalf of the Gila River Indian Community, recommended not using the post-1880 entrenchment channel as the defining marker for subflow zone because (1) it does not occur throughout the entire Gila River basin, (2) movement of rivers over time would demand redefinition and redetermination of subflow zone on a continuing basis, and (3) there is no geological difference between the channel and the rest of the younger alluvium.

¶ 24 Moreover, the groundwater users conceded at oral argument, and the record reflects, that sufficient evidence supports the trial court's factual findings, which adopted the saturated floodplain Holocene alluvium as the subflow zone.[5] Thus, the groundwater users' argument largely boils down to a disagreement with the trial

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[5] Specifically, the record, including expert testimony and reports admitted at the hearing on remand, reflects the following:

court's resolution of disputed facts and conflicting expert opinions. Such issues, however, are solely and peculiarly within the province of the trial court.

A. The saturated floodplain Holocene alluvium has a definable bed and banks and has current from the flow of underground water in response to gradient.

B. The methodology and procedure for delineating the subflow zone are not based on volume or time, but rather, on a geological feature that is a distinct, mapable, geological unit.

C. The saturated floodplain Holocene alluvium is more closely related to the stream than to surrounding alluvium, exists immediately adjacent to and beneath the stream bed, and does not extend from ridge line to ridge line. It is in direct hydraulic connection with the surface stream.

D. The groundwater table elevation in the saturated floodplain Holocene alluvium is at or near the surface of the stream.

E. Gradient and flow direction within the saturated floodplain Holocene alluvium generally are more closely associated with the river than with surrounding aquifers. The boundaries of the subflow zone set by the trial court are adequate to eliminate from the equation areas of connecting tributary aquifers, floodplain alluvium of ephemeral streams, or saturated basin fill.

F. The chemical composition of surface water and of water contained in the saturated floodplain Holocene alluvium is virtually identical.

G. Using the saturated floodplain Holocene alluvium for identifying subflow zone is not arbitrary, but rather, is scientifically based on geology and associated aquifer characteristics.

¶ 25 The parties presented conflicting evidence, including expert opinions, to support their theories relating to subflow and its parameters. The trial court, not this court, weighs the evidence and resolves any conflicting facts, expert opinions, and inferences therefrom. *In re Estate of Pouser*, 193 Ariz. 574, ¶ 13, 975 P.2d 704, ¶ 13 (1999). The record reflects that the trial court carefully and thoroughly performed those functions and then made findings that, although disputed, are fully supported by the evidence. Under these circumstances, we will not second-guess the court's factual findings, but rather, will uphold them unless they are shown to be clearly erroneous. *See* Ariz. R. Civ. P. 52(a). No such showing has been made here.

¶ 26 As they did in *Gila River II* with respect to the 50%/90 day rule, the groundwater users also contend the trial court's order after remand "is wrong as a matter of law" because its definition of subflow is too broad and is incompatible with *Gila River II* and *Southwest Cotton*. In support of that argument, they point to language in those opinions variously describing subflow as underground water that is " 'a part of the surface stream,' " 175 Ariz. at 387, 857 P.2d at 1241, *quoting Southwest Cotton*, 39 Ariz. at 96, 4 P.2d at 380; " 'found within, or immediately adjacent to, the bed of the surface stream itself,' " 175 Ariz. at 387, 391, 857 P.2d at 1241, 1245, *quoting Southwest Cotton*, 39 Ariz. at 97, 4 P.2d at 381; " 'connected with the stream[,] . . . strictly confined to the river bottom and moving underground' " " 'within the bed of the surface stream itself,' " 175 Ariz. at 390, 857 P.2d at 1244, *quoting* Kinney, *supra* § 1161, at 2110; and "relatively close to the stream bed." 175 Ariz. at 391, 857 P.2d at 1245. According

to the groundwater users, the trial court's adoption of the saturated floodplain Holocene alluvium as the subflow zone cannot be squared with those prior pronouncements.

¶ 27 As the groundwater users correctly observe, this court "adopted [Kinney's] narrow definition [of subflow] in *Southwest Cotton*," *Gila River II*, 175 Ariz. at 390, 857 P.2d at 1244, and again characterized subflow as "a narrow concept" in *Gila River II*. *Id.* at 391, 857 P.2d at 1245. Although those abstract, general statements hold true, we also observed in *Gila River II* that variations may affect where the line is drawn between subflow and nonappropriable percolating water, "depending on the volume of stream flow and other variables." *Id.* Thus, defining subflow in any particular area is a relative endeavor, "not an all-or-nothing proposition." *Id.* And, although "the line between surface and groundwater . . . is, to some extent, artificial and fluid," *id.* at 392, 857 P.2d at 1246, our various descriptions of subflow in *Gila River II* and *Southwest Cotton* should not serve as a straitjacket that restricts us from reaching in the direction of the facts and, so far as possible under those decisions, conforming to hydrological reality.

¶ 28 Our dissatisfaction with the 50%/90 day test in *Gila River II* stemmed largely from its arbitrary volume and time components, contrary to *Southwest Cotton*'s mandate to define subflow "in terms of whether the water at issue was part of the stream or was percolating water on its way to or from the stream." *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246. The 50%/90 day test included no such inquiry, as the trial court acknowledged in its subsequent order after remand: "A review of the

exhibits and testimony of [the 1987] hearing reflects the issue of "subflow" or how it could be physically located was *not* the focus of those hearings. Rather, it was a hearing as to the general relationship of surface flow to groundwater of all types." The court further stated that, "[w]hile [*Gila River II*] is correct in that there was no substantial evidentiary basis for [the 50%/90 day rule], the reason for it was that the 1987 hearings did not focus on 'subflow.' "

¶ 29 In contrast, the trial court's order after remand stated: "In dealing with the issue of 'subflow' as raised in 'Southwest Cotton,' the hearings held in . . . 1994 specifically focused on it. All [the] testimony related directly to that issue and the issue of 'cones of depression.' " The voluminous record confirms those statements.

¶ 30 The resolution of this case should not hinge on the semantics used in either *Gila River II* or *Southwest Cotton* to generally describe subflow. In short, those decisions were not intended to establish hard and fast, artificial parameters for subflow based solely on its geographic reach or on some arbitrary distance from a streambed. *See Southwest Cotton,* 39 Ariz. at 87, 4 P.2d at 377 (factors relevant to determining subflow include "geologic formation"); *City of Los Angeles v. Pomeroy,* 124 Cal. 597, 57 P. 585, 598 (1899) (facts supported jury finding that underground water flowing through a pass one and one-half to two and one-half miles wide constituted subflow), *cited with approval in Southwest Cotton,* 39 Ariz. at 97-99, 4 P.2d at 381. Rather, as we stated in *Gila River II,* the determination of whether a particular well is pumping subflow depends on "whether the well is pumping water that is more closely associated with the stream than

with the surrounding alluvium," 175 Ariz. at 392, 857 P.2d at 1246, and whether " *'drawing off the subsurface water tend[s] to diminish appreciably and directly the flow of the surface stream.'* " *Id.* at 393, 857 P.2d at 1247, *quoting Southwest Cotton*, 39 Ariz. at 97, 4 P.2d at 380. That determination, in turn, necessitates a comparative evaluation of such factors as "elevation, gradient, [flow direction,] and perhaps chemical makeup." *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246.

¶ 31 Using those pertinent criteria, the trial court held extensive evidentiary hearings for the purpose of "separating appropriable subflow from percolating groundwater," 175 Ariz. at 394, 857 P.2d at 1248, with the ultimate aim of establishing a workable and reasonably accurate definition of subflow.[6] Resolution of that issue was necessarily fact intensive. As noted above, the record reflects, and the parties now concede, that sufficient evidence supports the trial court's factual findings.

¶ 32 Unlike the 50%/90 day test we rejected in *Gila River II*, the trial court's order after remand is not arbitrary. Nor does it include tributary aquifers in its definition of subflow. Although the saturated floodplain Holocene alluvium may appear to be inconsistent with the "narrow concept" of subflow described in *Gila River*

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[6] Contrary to the suggestion of some of the parties at oral argument, the trial court did not exceed the scope of this court's remand in *Gila River II*. We specifically instructed the court to "take evidence" and "apply[ ] the principles contained" in *Gila River II* for purposes of "separating appropriable subflow from percolating groundwater." 175 Ariz. at 394, 857 P.2d at 1248. We did not intend to limit the trial court to merely determining useful criteria for that task.

II, 175 Ariz. at 391, 857 P.2d at 1245, and suggested in *Southwest Cotton*, we reject the argument that the trial court's findings and conclusions, as a matter of law, so violate the fundamental principles of those cases that they cannot stand. Nor does affirmance of the trial court's order require us to overrule *Gila River II* or *Southwest Cotton*, and we do not do so.

¶ 33 At oral argument, the groundwater users questioned how the "saturated" younger alluvium is to be defined and identified and what role, if any, the criteria that we set forth in *Gila River II* and that the trial court used will play in determining subflow in different locations. The criteria that the trial court articulated were elaborations of, but consistent with, the more general criteria set forth in *Gila River II*. The trial court properly applied these criteria to the San Pedro River basin in order to determine the most appropriate subflow zone, and the weight of the evidence supports the trial court's identification of that zone as the "saturated" floodplain Holocene alluvium.

¶ 34 The record reflects that the saturated floodplain Holocene alluvium is readily identifiable; that DWR can quickly, accurately, and relatively inexpensively determine the edge of that zone; and that some of the work already has been done. For example, the Salt River Project's (SRP) expert, Jon Ford, presented a proposal that identified subflow for the entire San Pedro River watershed and conducted a field check of his map to refine the boundaries. DWR may use such data accumulated during these proceedings to aid in its task. DWR also may use, but is not limited to, topographic maps, aerial photographs, phreatophyte presence, drilling records (or other

descriptions of materials encountered during drilling), water table maps, seismic data, and field mapping techniques.

¶ 35 The entire saturated floodplain Holocene alluvium, as found by DWR, will define the subflow zone in any given area.[7] In the effort to determine that zone in other areas, the detailed criteria set forth in the trial court's order, insofar as they apply and are measurable, must be considered, but we do not preclude the consideration of other criteria that are geologically and hydrologically appropriate for the particular location.

¶ 36 Contrary to the groundwater users' argument, the saturated floodplain Holocene alluvium does not automatically or necessarily encompass the entire younger alluvium. Equating the two would fail to take into account the pertinent criteria that must be applied and satisfied for determining the "saturated" subflow zone in a particular area. *See Southwest Cotton*, 39 Ariz. at 96, 4 P.2d at 380 (noting that "the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow"). It also would conflict with our rejection in *Gila River II* of any unqualified, blanket rule that invariably would include "all of an alluvial valley's wells" or all "waters pumped any place in the younger alluvium" in the definition of subflow. 175 Ariz. at 391, 393, 857 P.2d at 1245, 1247. But, contrary to the groundwater users' argument that the trial court's definition of

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[7] According to Erb, DWR does not include as part of a floodplain aquifer any area where the floodplain alluvium is above the water table.

subflow is broader than *Gila River II* and *Southwest Cotton* permit, the record reflects that saturated floodplain Holocene alluvium occupies only very narrow portions of the alluvial basins.

¶ 37 Moreover, as Ford explained and as the trial court acknowledged, the Holocene or floodplain alluvium is only the most recent portion of "stream alluvium." The entire younger alluvium is of Quaternary age, which includes materials deposited during both the Pleistocene era (approximately 1.8 million to 10,000 years ago) as well as the Holocene era (approximately the past 10,000 years to date).[8] And, as Montgomery acknowledged, modern floodplain alluvium underlies and is adjacent to nearly all large streams. Finally, the trial court's order does not preclude, but rather contemplates, future adoption of "a rationally based exclusion for wells having a de minimus effect on the river system," an approach we continue to endorse. *Gila River II*, 175 Ariz. at 394, 857 P.2d at 1248. *See also San Carlos Apache Tribe v. Superior Court*, 193 Ariz. 195, ¶¶ 35-40, 972 P.2d 179, ¶¶ 35-40 (1999).

B. Cones of depression

¶ 38 The trial court's order limits the subflow zone to the saturated floodplain Holocene alluvium. Thus, wells outside that area are presumed not to be pumping subflow. The trial court ruled, however, that "[w]ells located outside the lateral parameters of the defined 'subflow'

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[8] According to Montgomery, Holocene describes material deposited during approximately the last 8,000 years.

zone" may be included in the adjudication if "it is proven that their 'cones of depression'[9] reach the 'subflow' zone and the drawdown from the well affects the volume of surface and 'subflow' in such an appreciable amount that it is capable of measurement." In other words, the trial court ruled, a well may be subject to the adjudication if its " 'cone of depression' caused by its pumping has now extended to a point where it reaches an adjacent 'subflow' zone, and by continual pumping will cause a loss of such 'subflow' as to affect the quantity of the stream."

¶ 39 The trial court did not attempt to establish a test for determining a well's cone of depression because the court lacked pertinent evidence on that issue. Instead, the court recognized that each well must be separately evaluated "to compute drawdown at the 'subflow' zone" and that "whatever test ADWR finds is realistically adaptable to the field and whatever method is the least expensive and delay-causing, yet provides a high degree of reliability, should be acceptable."

¶ 40 We agree with the trial court. DWR may seek to establish that a well located outside the limits of the saturated floodplain alluvium is in fact pumping subflow and is therefore subject to the adjudication, by showing that the well's cone of depression extends into the subflow zone and is depleting the stream. And, as we stated in *Gila River II*, although a cone of depression may result in only part of a well's production being appropriable

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[9] The cone of depression is the funnel-shaped area around a well where the withdrawal of groundwater through the well has lowered the water table. *Gila River II*, 175 Ariz. at 391 n. 10, 857 P.2d at 1245 n. 10.

subflow, "that well should be included in the general adjudication." 175 Ariz. at 391, 857 P.2d at 1245.

C. Burdens of proof

¶ 41 The trial court's order and the parties' briefs addressed the standard of proof a well owner must meet to rebut DWR's assessment that a well is pumping subflow. As noted in ¶ 6 above, a well pumping underground water is presumed initially to be pumping percolating groundwater, not appropriable subflow. When DWR determines and establishes that a well is in the subflow zone by using the pertinent criteria or that it is pumping subflow by reason of its cone of depression, DWR provides clear and convincing evidence of that fact. *See Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246. The burden then shifts to the well owner to show that a well is either outside the subflow zone or is not pumping subflow. *Id.*

¶ 42 In its order after remand, the trial court stated that, "[a]t least in the area of 'cones of depression[,]' a burden of proof of preponderance seems fairer. The same is probably also true in the area of a 'subflow' zone determination." The court noted that, in determining cones of depression, experts "often rel[y] on assumptions which are not provable or are only partially provable" and that a clear and convincing standard for rebuttal purposes probably would be "too formidable a barrier" for pro se parties and often would be "too much for represented parties of modest wealth."

¶ 43 Given the strong initial presumption that a well is pumping percolating groundwater, we agree with the trial court that a preponderance of the evidence standard is more appropriate and should apply to well owners' efforts to rebut DWR's determination that a well is pumping subflow.[10] If a well owner presents sufficient evidence to meet that standard, it necessarily reduces DWR's proof to something less than clear and convincing.

D. Other Issues

¶ 44 We summarily dispose of the parties' remaining arguments relating to the trial court's determination of subflow. In *Gila River II*, we stated that " '[r]egulation of water use,' " enactment of appropriate laws for the " 'wise use and management' " of water, and effecting "any appropriate change in existing law" to accommodate "conflicting interests and claims of groundwater users and surface appropriators," are peculiarly legislative functions. 175 Ariz. at 393, 857 P.2d at 1247, *quoting Arizona Pub. Serv. Co. v. Long*, 160 Ariz. 429, 436, 773 P.2d 988, 995 (1989). Based on that language, the groundwater users and the state contend that judicially redefining subflow to encompass percolating, nonappropriable groundwater violates those principles by improperly usurping the legislative role. That argument, however, overlooks three basic points.

¶ 45 First, for nearly seven decades, this court has established the parameters of subflow without legislative

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[10] We did not state or suggest otherwise in *Gila River II*.

action or direction. Second, as discussed above, the trial court did not change existing law concerning subflow or otherwise improperly encroach on the state's Groundwater Code, A.R.S. §§ 45-401 through 45-704. Rather, the court merely applied the criteria set forth in *Gila River II* to the evidence presented on remand. As SRP correctly notes, the trial court's order "addresses only appropriable water and wells that pump such water," without "chang[ing] the legal status of underground water that is not appropriable." Third, this court must decide issues that are squarely presented to it, particularly when, as here, the trial court, at the parties' request, specifically certified the questions raised in this matter. *See San Carlos Apache Tribe*, 193 Ariz. 195, ¶ 37, 972 P.2d 179, ¶ 37 ("The power to define existing law, including common law, and to apply it to facts rests exclusively within the judicial branch.").

¶ 46 Given the over quarter-century history of, and specific statutory authorization for, this complex general stream adjudication, *see id.* at ¶ 2, 193 Ariz. 195, 972 P.2d 179, ¶ 2, the judiciary clearly is not only empowered but also expected to determine, based on a complete evidentiary record, issues relating to subflow. Resolution of such issues is integral to our statutorily recognized role of determining "the nature, extent and relative priority of the water rights of all persons in the river system and source." A.R.S. § 45-252(A). That function, in turn, includes identification of "waters of all sources, flowing in streams, . . . other natural channels, or in definite underground channels" that "are subject to appropriation and beneficial use." § 45-141(A). *See also* § 45-251(7). In sum, this is not an area in which we must await or

necessarily defer to legislative action. *Cf. Law v. Superior Court*, 157 Ariz. 147, 155, 755 P.2d 1135, 1143 (1988) ("We are furthering the statutory objectives in this area, not contradicting them.").

¶ 47 We also reject the groundwater users' assertion that the trial court's order amounts to an unconstitutional taking of their private property, in violation of the Fifth Amendment. In remanding this matter in *Gila River II* for the trial court to establish an evidentiary and principled basis for differentiating appropriable subflow from percolating groundwater, we implicitly rejected the groundwater users' identical argument in that case. Moreover, because a well owner does not own underground water, *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 82, 638 P.2d 1324, 1328 (1981), and because landowners have "no legally recognized property right in potential, future groundwater use," *Gila River I*, 171 Ariz. at 239, 830 P.2d at 451, the constitutional argument is substantively without merit.

V. CONCLUSION

¶ 48 We affirm the trial court's order after remand in all respects. The subflow zone is defined as the saturated floodplain Holocene alluvium. DWR, in turn, will determine the specific parameters of that zone in a particular area by evaluating all of the applicable and measurable criteria set forth in the trial court's order and any other relevant factors. *See* ¶¶ 33-35, *supra*. All wells located within the lateral limits of the subflow zone are subject to this adjudication. In addition, all wells located outside the subflow zone that are pumping water from a stream

or its subflow, as determined by DWR's analysis of the well's cone of depression, are included in this adjudication. Finally, wells that, though pumping subflow, have a de minimis effect on the river system may be excluded from the adjudication based on rational guidelines for such an exclusion, as proposed by DWR and adopted by the trial court.

CONCURRING: THOMAS A. ZLAKET, Chief Justice, STANLEY G. FELDMAN, Justice, WILLIAM E. DRUKE, Judge, and NOEL FIDEL, Judge.

Vice Chief Justice Charles E. Jones and Justices Frederick J. Martone and Ruth V. McGregor recused themselves; pursuant to Ariz. Const. art. VI, § 3, Judge Noel Fidel of Division One, Arizona Court of Appeals, Judge William E. Druke, and Judge John Pelander of Division Two, Arizona Court of Appeals, were designated to sit in their stead.

APPENDIX B

SUPERIOR COURT OF ARIZONA
MARICOPA COUNTY

HON. STANLEY Z. GOODFARB

June 30, 1994

N W-1, W-2, W-3, W-4

In re the General Adjudication of All Rights to Use Water in the Gila River System and Source

ORDER

THE NATURE OF THESE PROCEEDINGS

On July 27, 1993 the Arizona Supreme Court decided *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source,* 175 Ariz. 382, 857 P.2d 1236 ("In re Gila") and remanded it back to this Court to make certain evidentiary decisions. That opinion was the second of six issues of law the Court accepted for interlocutory review on December 11, 1991. Those issues were accepted because this action, which adjudicates water rights under the McCarran Act, 43 USCS § 666 will be before the Courts for many years and is exceedingly complex.

Two issues were remanded. *First,* a test for use by the Arizona Department of Water Resources (ADWR) to

determine what is known as "subflow" under *Maricopa County Municipal Water Conservation District No. One v. Southwest Cotton*, 39 Ariz. 65, 4 P.2d 369 (1931) ("Southwest Cotton"). "Subflow" contains appropriable water under A.R.S. § 45-141 and, therefore, is subject to the jurisdiction of this Court under state law. In this Court's opinion, "In re Gila" requires that the "subflow" zone be defined by physical factors utilizing stable geologic formations, available hydrological information, and/or organic characteristics of the area. *Second*, a test for use as to wells outside the "subflow" zone which create such a "cone of depression," that they cause water to be lost to or removed from the "subflow" zone, the stress bed, or the stream itself.

The parties divide into two groups. The United States, Salt River Project, the Indian Tribes and the Nature Conservancy argue for a "subflow" zone as wide as possible and a "cone of depression" test which provides the greatest protection to stream flow. These parties have an interest in protecting their surface rights in stream flow because they already have appropriation rights or federal reserve rights under *Winters v. U.S.*, 207 U.S. 564, 28 S.Ct. 207, 52 L.Ed 340 (1908). Those who refer to themselves as the "groundwater users" include the mines, several cities who depend more heavily on groundwater sources, plus certain agricultural interests. They argue for a much narrower "subflow" zone, because it provides much more protection for their use of sub-surface water sources they depend on.

On August 27, 1993 this Court took up the issues presented and the resolution process. At least two of the

parties, Cyprus Mining and the City of Phoenix, previously presented requests for direction. A briefing schedule was set and request for comment on the issue with argument set for October 7, 1993. By then the Court had received a number of briefs which called for an evidentiary hearing. The Court agreed and provided certain specific orders to ADWR and others on how the evidentiary hearing would be held, how reports were to be prepared, how experts were to be presented and proposed dates and schedules.

On November 5, 1993 there was further discussion as to the contents of the experts' reports filed by December 15, 1993. The next meeting, December 10, 1993, changed the date of the evidentiary hearing from January 10, 1994, to January 31, 1994, spelled out what was expected from the parties as to testimony, and set rules on cross-examination by multiple parties and limits on evidentiary relevance.

On December 22, 1993 the Court held its first Pretrial Management Conference and set down four separate evidentiary rulings which the Court believed all parties were in agreement with, and noted what seemed to be the quality of the ten separate reports filed. The Court then requested an acetate overlay presentation of how each party's position would show the parameters of the "subflow" zone in two typical study reaches of the San Pedro Basin. They were Reach 1 between Reddington and Mammoth (exhibit 18), and Reach 2 Palominas (exhibit 11). The acetate overlays were mounted over base maps prepared by ADWR and marked as exhibits 12 to 17 for the Palominas Reach (exhibit 11), and exhibits 19 to 25 for the Reddington Mammoth Reach (exhibit 18).

On January 14, 1994 the final details were worked out, the requested exhibits presented, mounted and viewed by all counsel, a schedule of the order of witnesses' presentations arrived at and how cross-examination would be allowed. By then an exchange of exhibits was to have occurred. Between the 14th and the 31st, disclosure statements were filed by the City of Phoenix, Maricopa County, City of Tucson, City of Benson, Apache Nitrogen, Buckeye Irrigation, City of Tempe, Apache Tribes and the Verde Valley who did so to preserve their right of cross-examination but who did not intend to offer any expert testimony and had not submitted reports.

On January 27, 1994 the groundwater users filed a disclosure statement indicating for the first time a claim that the parameters of the "subflow" zone would be defined by the lateral limits of what they called the "post-1880 entrenchment" rather than what they reported previously in Dr. Montgomery's Report of December 14, 1994. During the ten days of the hearing the "post-1880 entrenchment" theory became the focal point of their position.

On Monday, January 31, 1994 this Court commenced ten days of evidentiary testimony taken from ten different geologists and hydrologists. March 3 and 4, 1994 were spent on a field trip to the San Pedro itself. (Two hundred eighteen exhibits were then received in evidence.) Before testimony started, two sides presented oral motions to exclude the other's testimony. The groundwater users requested exclusion of all testimony as to younger alluvium arguing that "In re Gila" precluded it. Salt River Project, the United States and the Tribes argued to

exclude any testimony as to the "post-1880 entrenchment" theory because it was revealed only two court days before the hearing. Both motions were denied for the reasons stated on the record.

Testimony started on January 31, 1994 with Jon R. Ford for Salt River Project who was followed by Dr. Thomas Maddock, III, of the University of Arizona for the Nature Conservancy, Oliver S. Page for the United States, and T. Allen Gookin for the Gila River Indian Community. Following them were Dr. Errol L. Montgomery and Dr. Stanley Schumm, a geomorphologist from Colorado State University, who presented the groundwater users' position. William Wellendorf, David Stephenson and Michael Lacey followed for certain cities on February 10, 1994. Testimony then ended on February 15, 1994 with two days of Steve Erb, Chief of the Adjudication Section of ADWR.

In the testimony it soon became apparent that almost none of the experts had done any recent physical investigation on the San Pedro. What they presented largely were literature searches and investigation of their own or others' prior reports. No drilling or soils investigation had occurred. The Court, based on its own prior experience as counsel for the Arizona Department of Transportation (ADOT), recalled that the materials division of ADOT keeps a detailed index of all soils investigation made for highways constructed, bridges built and materials pits utilized for its construction in every part of this state. Since there were highways all over the San Pedro Valley, the Court had ADWR contact ADOT and discovered that it had drill logs available for the two interstate highway bridges at Benson in the San Pedro River, the

bridge over the river at Charleston and the bridge at Lewis Springs. These were secured and copies made available to all parties for their use and interpretation. (These were marked as exhibits 236, 237, 238 and 239 and testified to extensively by Dr. Montgomery, Steve Erb and others). While a number of witnesses testified about opinions based upon well-driller logs of record at ADWR, after receiving the ADOT logs the United States, Salt River Project and groundwater users moved extensive drilling equipment into the area and drilled several sites in both the upper and lower reaches of the river. The information derived from these drilling programs plus interpretation of the ADOT drilling logs is contained in the rebuttal affidavits filed by Jon R. Ford, Oliver S. Page and Errol L. Montgomery. These were filed in lieu of further rebuttal testimony.

On March 3 and 4, 1994 the Court and a large number of counsel embarked on a two-day, 595-mile field trip covering the entire San Pedro Valley and visited more than 13 sites. There each expert was permitted to explain the geology and hydrology of the site. This was recorded by audio tape, transcribed and filed of record. It is 258 pages because at nearly every site discussion was lengthy, often at odds, and sometimes heated. The statements were first made by witnesses previously sworn at the hearings; but, by consent, statements were also taken from others including several long-time residents who were witnesses to facts of historical significance with regard to the river. These were Jack Smallhouse, a rancher in the area of Reddington whose family resided and ranched the area since 1880; Barbara Clark, a resident at

Caschabel who had resided in the present location adjacent to the river for about twenty years; and Ben Lomeli, a hydrologist for BLM who is a ranger for the San Pedro River Riparian Conservation Area. A detailed discussion of the trip is contained in this court's minute entry of March 11, 1994.

At the conclusion of the hearing on February 15, 1994, the Court established a schedule for briefing. Principal lead counsel were to file their briefs by March 18, 1994. Others were to reply by March 25, 1994. After this was done, the groundwater users filed a Motion to File a Reply Brief and a request for oral argument. Salt River Project and the United States moved to strike and deny. The Court allowed those late briefs to stand but denied oral argument. More than enough had been said and written.

Later, as will be explained on pages 39 to 42 of this decision, it became necessary that a supplementary evidentiary hearing be held. It related to a comparison of aerial photography of the San Pedro River taken in 1935 and 1990. When this Court became aware of this material, it asked ADWR to carry out a study comparing the physical features of the river shown on this aerial photography which was taken fifty-five years apart. The request was to look for any changes in the location or size of the principal channel of the river or the riparian vegetation areas adjacent to the river. This hearing occurred on June 14 and June 15, 1994. Four witnesses were heard from and 83 additional exhibits were admitted.

Prior to and since that hearing this Court has reviewed all of the testimony given, all of the exhibits,

participated fully in the field trip and read all of the briefs. It also re-examined the testimony and exhibits of the 1987 evidentiary hearing on the relationship of groundwater to surface water. It finds a sufficient foundation of facts needed to rule on the issues presented. Because one of the criticisms of this Court's prior instruction to ADWR on the "50%/90-day" rule was a lack of evidentiary record to support it, this order will be necessarily lengthy.

THE REASONING PROCESS WHICH LED US HERE

Having discussed the nature of the proceedings from July 27, 1993 to date, it should help to understand the decision which follows to review the thought processes which brought us here.

This McCarran Act adjudication began as a judicial process in 1979. It combines an adjudication of rights under Arizona law of prior appropriation for surface water sources, "Southwest Cotton," with the non-prescriptive right under state law to reasonable use of groundwater, *Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953), with federal law on the rights of federal entities and Indian tribes to use both surface and groundwater for the purpose of the federal entity and/or reservation creation. *Cappaert v. U.S.*, 420 U.S. 128, 965 Ct. 2062, 48 L.Ed.2d 523 (1978). It must deal not only with rights derived from actual use under state law, but with priorities of rights reserved to federal entities and reservations under federal law because the United States is not only the owner but the Trustee of those lands, *Winters v. U.S.*, supra.

Unfortunately, from 1979 to 1983 this case was involved in a jurisdictional dispute which was not resolved until 1983 in *Arizona v. San Carlos Apache Tribe of Arizona*, 463 U.S. 545, 103 S.Ct. 3201, 72 L.Ed.2d 837 (1983). After that, it took a great deal of time to bring the Hydrographic Survey Report (HSR) activities of ADWR to the point where the voluminous reports needed could be readied for judicial analysis and decision. Considering the size of the Gila watershed, its numerous sub-watersheds, the number of claimants (approximately 24,000), and the diversity of interests, that should not be surprising. While the investigation for the reports was being carried out and reports prepared, the Court, in order to use its time efficiently, attempted to hear and decide major issues which were not factually oriented. As a result, the Court issued a series of pretrial management orders and decisions including the ruling of September 9, 1988 which included the "50%/90-day" rule. As stated in "In re Gila," P. 384 of 175 Ariz:

> "For five days in October, 1987, the trial court held hearings on the relationship between surface water and groundwater. Hydrologists and hydrological engineers testified and submitted reports on the relation between ground and surface water in general, and in the San Pedro and Santa Cruz watersheds in particular. The hearings were for the general education of all parties and the court, but the material adduced at the hearing was to be considered evidence on which the court could rely when appropriate."

A review of the exhibits and testimony of that hearing reflects the issue of "subflow" or how it could be physically located was *not* the focus of those hearings.

Rather, it was a hearing as to the general relationship of surface flow to groundwater of all types. Then, and even at this latest hearing, the consensus of all testimony was that there is a hydraulic connection between nearly all groundwater and the surface flow in its area except where: 1) a confined aquifer is sealed off from surrounding basin fill or floodplain alluvium by substantial impervious layers such as clay which precludes the connection; or, 2) a groundwater aquifer is beneath an ephemeral stream and the "vadose" dry zone between the stream and the top of the aquifer substantially precludes connection.

Following the 1987 hearings, several cities filed a motion to exclude certain wells from the adjudication arguing they pumped percolating groundwater rather than surface flow or "subflow" under "Southwest Cotton." It was at this point that the "subflow" issue first significantly arose in this case and the Court's instruction to ADWR on the "50%/90-day" rule was issued on September 9, 1988. While "In re Gila" is correct in that there was no substantial evidentiary basis for that instruction, the reason for it was that the 1987 hearings did not focus on "subflow."

In dealing with the issue of "subflow" as raised in "Southwest Cotton," the hearings held in January, February, March and June 1994 specifically focused on it. All its testimony related directly to that issue and the issue of "cones of depression."

Another fact needs to be recognized. On page 391 of 175 Arizona Reports, the following statement appears:

> "The trial court instructed DWR to apply the 50%/90 day test to all wells located in or near the younger alluvium. *The record shows, however, that in a given area the younger alluvium may stretch from ridge line to ridge line so that all wells in the valley would be in or near the younger alluvium.*" (emphasis supplied)

The position of the second sentence that "younger alluvium may stretch from ridge line to ridge line" is factually unsupported. Every witness who testified in this hearing agreed that "younger alluvium" "Holocene alluvium" or "floodplain alluvium" (different names for the same thing) is found only in the center of this broad valley. It does not come even close to the ridge line in the upper or lower basins of this valley. Those ridge lines constitute the top of the Huachuca and Whetstone Mountains to the west and the Dragoon and Mule Mountains to the east in the upper basin from the border to Pomerene. The valley in this area is a basin fifteen to twenty miles wide.

If one proceeds geologically from the ridge line of the mountains down toward the center of the valley one encounters first substantial rock face, then some distance from the top and generally at their base the edge of the basin fill deposits. These divide geologically into an upper and lower basin fill.

Moving further toward the center of the valley one encounters the edge of what this Court will call the floodplain alluvium near the center of the valley. It is made up of those deposits laid down since the end of the "Ice Age." Its width is up to 7,000 feet in the upper basin and much narrower in the lower basin which runs from

Pomerene north to Winkelman. There the ridge line is the top of Rincon and Tortilla Mountains to the west and the Winchester and Galloros to the east. The same geologic sequence of ridge line, rock face, basin fill, and finally floodplain alluvium is also found in the lower basin.

Most aquifer recharge occurs at the line of mountain front recharge. This is where the basin fill meets the rock face. It is generally thousands of feet below the ridge line and miles from the floodplain alluvium. The graphic portrayal which follows shows this relationship.

[Picture Omitted]

Figure 2-3. Generalized cross-section of aquifers systems.
Copy of Page 13 of Exhibit 10.

[Picture Omitted]

(Modified from ADWR, 1991)
Copy of figure 4 of Exhibit 2.

THE SAN PEDRO RIVER

While the issues to be decided pertain to watersheds all over the Gila River watershed, the facts as to the San Pedro River need to be discussed.

The San Pedro River Valley is in the basin and range portion of southeast Arizona. It is oriented from south to north and flows from Cananea, Sonora, Mexico, to Winkelman. The valley's elevation ranges from 9,500 feet at its mountain tops to 1,920 feet at Winkelman. At the international border it is at 4,275 feet and drops to 3,590 feet at

the narrows near Benson. In the United States the San Pedro River runs about 52 miles from the border to Benson and another 80 miles to Winkelman for a total of 132 miles. Its overall rate of drop is about 18 feet per mile but in the upper basin it is 13 feet per mile and 20 feet per miles in the lower basin.

According to the HSR prepared by ADWR, Table 4-12, the river naturally and normally produces approximately 160,000 acre feet of surface water per year. Approximately 64,000 acre feet is used by various cultural uses such as irrigation, mining, domestic, municipal, etc. Another 5,620 acre feet is lost to evaporation and 52,000 acre feet is used by the phreatophytes such as willow, cottonwood and mesquite which make up its riparian forests. This leaves about 58,000 acre feet of outflow both by groundwater and surface water at Winkelman into the Gila River system after recharge and return from some of the cultural and natural uses. Dr. Montgomery, in his October 2, 1987 Report for the earlier hearing (exhibit 11 of that hearing), reported on page 2 that the lower basin of the San Pedro alone had water storage capacity of 30 million acre feet in its aquifers. ADWR estimated in the HSR that the storage capacity of the San Pedro Aquifer both upper and lower was 84 million acre feet. Attached as Appendix A is that portion of this river's HSR which estimates its groundwater storage capacity by sub-watersheds and in total. Also attached is the water balance portion of the HSR and the aquifer storage estimate (Appendix B and C-1, C-2, C-3). In comparing these capacities to what appears to be a relatively low surface flow component, it is clear this

river value as a water asset is largely in its storage capacity rather than its surface flow.

An important and unexpected bit of evidence in our case was exhibit 190, Geological Society of American monograph entitled "Entrenchment and Widening of the Upper San Pedro River, Arizona" written by Richard Hereford, a direct descendant of the founder of the town of Hereford. He provides an interesting history prior to development and post-development of the upper basin from the border to St. David. Basically what he reports is that prior to 1880 the San Pedro was a slow, swamp-like river running through various cienegas abundantly filled with large buffalo fish and beaver dams. The swamp-like conditions caused malaria in the early St. David settlements until breaching the beaver dams allowed the swamps to drain. The areas beside the river were large grassy plains with little riparian forestation. A picture of the bridge at Hereford in 1908 is shown on page 15 of exhibit 190. It shows no trees in the area and a large grassy plain next to a stream entrenched a few feet below the surface of the adjoining grasslands. On our field trip on March 3, 1994 we found a virtual forest of riparian growth nearly a mile wide.

Upper San Pedro River, Arizona

[Picture Omitted]

Figure 14. Photograph of the Hereford bridge in 1908 showing entrenched channel. View is upstream. Photograph from Bisbee Mining and Historical Museum.

Exhibit 190 page 15.

In Hereford's Report, page 19, there are pictures taken at the Palominas bridge in 1939 and 1991 which also show the very recent heavy phreatophyte forestation. The Court's recent visitation to the area indicated even heavier growth and a channel significantly narrower from that shown even in the 1991 photo. On March 3, 1994 the Court found a lengthy three-span highway bridge, but a channel so narrow that one could jump across it, as several did, lodged against the eastern span of the bridge in the two pictures (one taken in 1939 and the other in 1991) that follow.

(A)

[Picture Omitted]

Exhibit 190 page 19.

[Picture Omitted]

Figure 17. Palominas bridge; view is upstream. (A) Photograph taken in 1939 (from Special Collections, University of Arizona, Tucson); (B) 1991. Dense riparian vegetation has developed in the channel.

Exhibit 190 page 19.

The reports and testimony all indicate a vastly different river environment up to 1880. Thereafter, significant overgrazing of the grass cover, removal of most of the upland trees for mine and charcoal use, climatic changes, phreatophyte growth and even, it is claimed, an earthquake in Mexico drastically change this valley. The vast herds of cattle of the late 1800s and early 1900s stripped most of the grassland cover from the adjacent parts of the

lower basin allowing significant erosion and phreatophyte infestation. The climate changes and overgrazing helped change the river from a slow-moving, marsh, swamp, cienega-like environment to one where heavy flash floods through narrowed channels could cause deep entrenchment and deposition. However, as Hereford reports, this entrenchment occurred mostly at times of significant flood, and nearly all of the new deposition occurred post-1937.

> "The post entrenchment deposits of the San Pedro River are confined entirely within the entrenched channel; most were formed after 1937." (p. 19 of exhibit 190)

A view of the diagrams and photographs of the reports supports the positions of Ford, Page, Gookin and Erb that the "post-1880 entrenchment" of this river is simply the latest subset of a depositional process which began after the "Ice Age" and continued to date. It provides the most recent layer added to what is generally called the "Holocene" alluvium. Of all the photographs of importance in the Hereford Report, figure 11, page 12 clearly show that a deposition of flood-bank alluvium which, according to Hereford, is as recent as 1955. It is not as highly permeable or clay free as witnesses for the groundwater users urged in attempting to contrast the same with the general Holocene alluvium unit in which this latest deposition layer is inset. In a bank of no more than 6 or 7 feet there are six layers of clay showing recurring periods of deposition. Moreover, other photographs which are designated as figures 3, 4, 11 and 12 (exhibit 190) show a high degree of comparability

between units of pre- and post-entrenchment depositions. Copies of these photographs follow.

[Picture Omitted]

Figure 11. Photograph of cutbank exposure of older floodplain alluvium (unit f_1) on west side of river 1 km south of Lewis Springs. Downstream to right. Thin dark layers are silty clay. Scale divisions = 10 cm.

[Explanation Omitted]

Exhibit 190 pages 8 and 12.

[Picture Omitted]

Figure 12. Photograph showing cutbank exposure of younger floodplain (unit f_2) alluvium with truck tire 0.6 km south-southwest of Contention. Scale divisions = 20 cm.

Exhibit 190 page 12.

[Picture Omitted]

Figure 4. Photograph showing the geomorphic and cut-and-fill stratigraphic relation of the post- and pre-entrenchment alluvium on the east side of the river 3.2 km north of the Charleston gaging station. Postentrenchment alluvium (unit t_1) forms the lower surface on the left side of the photograph. Upper surface is the pre-entrenchment McCool Ranch alluvium (unit t_m) overlain by Teviston alluvium. Note truncation of beds in the older unit. Map units discussed in text. Scale divisions = 20 cm.

[Explanation Omitted]

Figure 2. Geologic cross section showing correlation of surficial deposits and geomorphology of the inner valley of the San Pedro River in the vicinity of Lewis Springs. The geologic relations, geomorphology, and deposits are typical of the study area.

Exhibit 190 pages 6 and 8.

Upper San Pedro River, Arizona

[Picture Omitted]

Figure 3. Photograph of a typical exposure of the pre-entrenchment alluvium 4.9 km north of Hereford. Upper Holocene Teviston alluvium overlying the McCool Ranch alluvium of Haynes (1987). Note the dark bed of cienega-type deposits near top of scale. Subhorizontal line shows contact between the alluviums. Scale divisions = 20 cm.

Exhibit 190 page 7.

HYDROLOGIC PRINCIPLES

Hydrology is the study of the properties of water. It is a multi-disciplined science encompassing the study of physics, chemistry, geology, geography and climatology. Like many sciences, it depends upon the acceptance of certain principles agreed upon by most hydrologists. To understand the evidence received one should understand the hydrologic principles to which all the witnesses agreed.

ADWR's Report of December 15, 1993 (pages 4 to 19, exhibit 10) states them as follows:

Hydrologic Overview

"The alluvial basins of the arid West are integrated hydrologic systems composed of surface water and groundwater components. Water in these systems flows from areas of high elevation to areas of lower elevation along a path of greatest slope under the influence of gravity. Major perennial or intermitten streams occur in the central portion of the alluvial basin, occupying the lowest areas of the basin floor, flowing along the slope of the basin. The perennial or intermittent stream is typically surrounded by younger alluvium. Surface flow in the stream is derived from runoff from precipitation and groundwater discharge. Groundwater flows in unconsolidated and consolidated margins of the basin toward the center, occupied by the younger alluvium and the stream. Upon nearing the center of the basin in the vicinity of the younger alluvium, groundwater flows under the influence of the basin slope, in the same direction as the stream.

The physical character of groundwater and surface water in the vicinity of the younger alluvium is often identical. Surface water and groundwater in the area occupy the same geologic space and flow in the same direction along the slope of the basin. There is free interaction between groundwater and surface water; groundwater in the younger alluvium contributes to the surface flow and the surface flow recharges the younger alluvium. Distinguishing between groundwater and surface water in the vicinity of the younger alluvium in hydrologic terms to derive a legal standard is problematic

and a byproduct of Arizona's bifurcated legal system." (pages 4-5)

Stream Types

"Surface water streams fall into one of three types: perennial, intermittent, or ephemeral. The type of stream is indicative of the extent of groundwater/surface water interactions taking place." (page 6)

"Perennial streams discharge water continuously through the year. Their source of supply is normally comprised of both direct runoff from precipitation events or snow melt, and baseflow derived from the discharge of groundwater into the stream." (page 6)

"Intermittent streams discharge water for long periods of time, but seasonally. For example, an intermittent stream may flow all winter, every winter, but never flow continuously during the summer. During seasons when baseflow is maintained, groundwater is contributing to the stream. During seasons of discontinuous streamflow, natural and cultural losses may be greater than the contribution from groundwater, resulting in a losing stream. Or, the amount of groundwater discharge itself may have decreased due to natural or cultural uses." (page 6)

"Ephemeral streams discharge water only in response to precipitation events or snowmelt, and do not have a baseflow component at any time of the year; they flow out sporadically. The groundwater system and surface water system do not establish a hydraulic connection in these systems." (page 9)

Aquifer Types

"Aquifers are saturated geologic units that can transmit significant quantities of water under ordinary hydraulic gradients. . . . There are three types of aquifers identified in this study: younger alluvium, tributary aquifers, and nontributary aquifers. While these aquifers are distinct hydrogeologic units, they are interrelated parts of the dynamic groundwater system." (page 10)

Younger Alluvium

"In the Gila River system, younger alluvium aquifers are unconsolidated sand and gravel deposited within the channel course of perennial or intermitten streams by the stream itself. . . . Groundwater in the younger alluvium is derived in large part directly from the stream system. The hydraulic gradients and groundwater flow directions are similar to the associated surface water stream. The groundwater table elevation in the younger alluvium is at or near the surface elevation of the stream.

The younger alluvium is a relatively thin aquifer. In the San Pedro river [sic] watershed, the younger alluvium ranges from approximately 10 to 200 feet thick. Also, the younger alluvium occupies only very narrow portions of the alluvial basins within the Gila River system."

. . . .

"The younger alluvium occurs within, and defines, the channel of perennial and intermittent streams in the Gila River system. It underlies and laterally grounds the associated stream

and is a hydrogeologic feature of the stream. The material that comprises the younger alluvium was deposited by the stream in the recent geologic past." (page 10)

"Conceptually, the stream builds its channel through scouring and fills it by deposition, thus creating the younger alluvium. Throughout geologic time, river systems have complex scouring and depositional histories as a result of the external and internal forces at work within the system. . . . These processes proceed at a geologic pace and are continuing today, defining the younger alluvium." (page 11)

Tributary Aquifers

"Tributary aquifers occur between impermeable mountain fronts and younger alluvium. They receive water from mountain front recharge and infiltration from runoff. The aquifers are in direct hydraulic connection with younger alluvium and transmit water to younger alluvium. The tributary aquifers normally have hydraulic gradients distinct from the hydraulic gradients distinct from the hydraulic gradient of surface water streams and have flow directions toward surface water streams unless altered by well pumping." (page 11)

Nontributary Aquifers

"Nontributary aquifers are located in isolated groundwater basins surrounded almost entirely by impermeable hardrock with relatively narrow connections to other groundwater basins and aquifers. Nontributary aquifers have no hydraulic connection with either the younger

alluvium or tributary aquifers. Any stream overlying a nontributary aquifer is ephemeral." (page 12)

Aquifer Flow Characteristics

"Aquifers are more than just reservoirs of groundwater. They are dynamic systems that receive inflows of groundwater, transmit groundwater and, in some cases, discharge groundwater to surface streams. . . . The inflow of water recharge occurs from the infiltration along mountain fronts and stream channels, and from infiltration of excess water from cultural uses. Aquifers that border high mountains normally receive significant mountain front recharge and recharge from streamflow infiltration. Aquifers that underlie large areas of agricultural irrigation experience significant recharge incidental to the irrigation practices.

Groundwater in transit will eventually discharge to a stream if not first withdrawn by natural (plant life) or cultural uses (pumpage from wells)." (page 12)

"There are four types of groundwater/surface water interactions in the Gila River system: Alluvial valley streams, alluvial valley streams with confined zones, bedrock canyon streams, and mountain front streams." (page 14)

Alluvial Valley Streams

"Alluvial valley streams are perennial or intermittent streams that flow in alluvial basins and are underlain and bounded by younger alluvium. The alluvial basin is a structural trough filled with unconsolidated sediments

derived from the adjacent mountains. These unconsolidated sediments are generally referred to as basin fill deposits (Anderson, and Johnson, 1985). The perennial or intermittent stream commonly occupies a narrow inner valley, composed of younger alluvium, which includes the dynamic channel of the stream.

A generalized cross-section of an alluvial valley stream segment is shown in Figure 2-4a. As depicted in this figure, the younger alluvium and perennial stream occupy the inner valley.

Alluvial Valley Streams

[Picture Omitted]

Figure 2-4a. Generalized cross-section of alluvial valley stream segments.

Page 15 of Exhibit 10.

The overall groundwater system within alluvial valley stream segments has two broad components: groundwater flowing toward the stream system, and groundwater flowing with the stream system. The groundwater flowing toward the stream occurs in the tributary aquifer. Groundwater in the younger alluvium generally flows in the same direction as the stream but, to a lesser degree, also from the adjacent tributary aquifer." (pages 14-16)

Alluvial Valley Streams With Confined Zones

"Alluvial valley stream systems sometimes contain tributary aquifers with underlying confined zones. The confining layers in the tributary aquifer are composed of impermeable silt and clay (Anderson, and Johnson, 1985). The

confining layers prevent vertical movement of water from the underlying tributary aquifer to the overlying younger alluvium in particular locations (Figure 2-4b), thus interrupting direct hydraulic connection between the two aquifers. It must be noted, however, that these situations occur only occasionally; whether a particular well withdraws water only from a confined zone should be determined on a well by well basis." (page 16)

Alluival Valley Streams with Confined Zones

[Picture Omitted]

Figure 2-4b. Generalized cross-section of alluvial valley streams with confined zones

Page 17 of Exhibit 10.

Bedrock Canyon Streams

"Bedrock canyon streams are perennial or intermittent streams located in canyons bounded by consolidated tributary aquifers or impermeable bedrock." (page 16)

Mountain Front Streams

"Mountain front streams are stream segments in transition from bedrock canyons to alluvial basins. . . . " "The streams are perennial or intermittent and are underlain and bounded by younger alluvium. Many streams make a transition from bedrock canyon streams, with narrow younger alluvium bounded by hard rock, to alluvial valley streams with younger alluvium bounded by tributary aquifers." (page 19)

Three other definitions need to be set out.

Vadose Zone – An unsaturated (dry) zone above the water table (open to atmosphere) where water pressure is less than the atmospheric pressure.

Permeability – The rate of hydraulic conductivity of the material the water is passing through (refers to aquifer).

Transmissivity – The rate of hydraulic conductivity multiplied by the height of the geologic unit it is contained in.

WHAT DOES "IN RE GILA" REQUIRE

Unfortunately, the term "subflow," which "In re Gila" deals with, has no scientific meaning in the vocabulary of hydrologists or geologists. It is a term only lawyers and judges use. Every witness said that. All we can do is apply their scientific principles to find a reasonable factual basis in which to enwrap the legal concept of "subflow." To do that we must review the language of "In re Gila."

On page 388 of 175 Ariz., the Court quoted with approval the following from "Southwest Cotton":

> "there cannot be any abstraction of the water of the underflow without abstracting a corresponding amount from the surface stream, for the reason that the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow."

. . .

> "The test is always the same: Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream? If it does, it is subflow."

On page 391 it says of "Southwest Cotton":

> "It seems clear that the court considered subflow and tributary groundwater to be two different classes of underground water. The former is subject to appropriation under the predecessor of A.R.S. § 45-141(A); the latter is not."

On page 390 the present court quotes Kinney's 1912 work on "The Law of Irrigation and Water Rights" that "subflow" is "strictly confined to the river bottom" and "the water must be within the bed of the surface stream itself." Yet on page 391 of 175 Ariz., the case states an opinion more in conformity with present science and at odds with Kinney's narrow-bed theory:

> "We believe the *Southwest Cotton* court drew a line between subflow as part of the stream and water in the surrounding alluvium that is either discharging into the stream or being discharged by the stream. That line is relatively close to the stream bed, with variations depending on the volume of stream flow and other variables. Thus, if a well is drawing water from the bed of a stream, or from the area immediately adjacent to a stream, and that water is more closely related to the stream than to the surrounding alluvium, as determined by appropriate criteria, the well is directly depleting the stream. If the extent of depletion is measurable, it is appreciable. This is not an all-or-nothing proposition. For example, if the cone of depression of a well has expanded to the point that it intercepts a

> stream bed, it almost certainly will be pumping subflow. At the same time, however, it may be drawing water from the surrounding alluvium. Thus, part of its production may be appropriable subflow and part of it may not. Even though only a part of its production is appropriable water, that well should be included in the general adjudication."

Moreover, the present court said on page 391,

> "To say that all of an alluvial valley's wells may be pumping subflow is at odds with *Southwest Cotton's* statement that subflow is found within or immediately adjacent to the stream bed."

The sentence quoted is dependent upon the previous sentence which states,

> "The record shows, however, that in a given area the younger alluvium may stretch from ridge line to ridge line so that all wells in the valley would be in or near the younger alluvium."

As stated before, every witness found that statement not scientifically supportable. It violates general principles of geology and hydrology. Therefore, this trial court must suggest, based on the evidence before it, that at least some portion of the wells in a valley's alluvium must be pumping "subflow" or their "cones of depression" have reached the "subflow" area. Therefore, they are depleting the surface flow as indicated by the previous quotation on pages 32 and 33 which discusses the surface flow's tendency to fill the loose, porous material of its bed. The only logical and rational way the "Southwest Cotton" and "In re Gila" theories as to "subflow"

can be made consistent with the scientific principles testified to is to turn to the tests on page 392 of 175 Ariz. where the Supreme Court itself urged of *flow direction, elevation, gradient* and *chemcial composition.*

> "Whether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time. As we stated above, it turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium. For example, comparison of such characteristics as elevation, gradient, and perhaps chemical makeup can be made. Flow direction can be an indicator. If the water flows in the same general direction as the stream, it is more likely related to the stream. On the other hand, if it flows toward or away from the stream, it likely is related to the surrounding alluvium."

If we add to those tests the concept that if a "subflow" zone can be differentiated from adjacent geologic units such as tributary aquifers and the basin-fill aquifer which discharge into it or receive discharge from it, a set of principles can be developed to define "subflow" and still be consistent with "Southwest Cotton" and science.

DEFINING "SUBFLOW"

A. General Principles

The briefs filed, except for that of the Nature Conservancy, take a position of 1) a narrow band defined by the edge of the river principal channel, or 2) a slightly larger post-1880 depositional layer, or 3) the edge of the central valley's younger alluvium. The Nature Conservancy

offers two solutions, the first geologic and the second solution provided by the area's natural vegetation, the growth of phreatophytic plants located in the riparian zone. Consideration of all of these proposals does not require an "either/or" solution. Rather, it provides an opportunity to use a building-block method to find proper parameters of the "subflow" zone laterally and vertically. This Court will attempt to do this by going from the narrowest to the widest zone, and for each asking whether it can be a part of a wider zone or does it define the absolute limits of "subflow."

Before discussing the conflict between different sides or proposals, the Court finds that the opinion of "In re Gila" and the evidence which was uncontested requires that any "subflow" zone must be defined by at least the following principles:

1. The "subflow" zone must be adjacent and beneath a perennial or intermittent stream.

2. It may not be adjacent or beneath an ephemeral stream. However, it may be adjacent or beneath an ephemeral section of a perennial or intermittent stream, if the ephemeral section is caused by adjacent surface water diversion or groundwater pumping. There must, however, be a saturated zone beneath connected to similar zones beneath the upper and lower perennial or intermittent stream sections.

3. Except as set forth in paragraph 2 above, there must be a hydraulic connection between the surface stream and the "subflow" zone.

4. The "subflow" zone must be distinguished from adjacent tributary aquifers or connecting basin fill.

5. The parameters of the "subflow" zone, if it is to be defined by reference to the saturated floodplain alluvium, Holocene alluvium, or younger alluvium, must be outside of and not include those tributary alluvial deposits known as "inliers" as indicated in figure 6 of tne Stetson Report (exhibit 2).

6. Wells which are located in but perforated below the saturated floodplain alluvium aquifer are to be included in the "subflow" component unless these perforations are proven by their owners to be below a confining zone of impermeable material such as clay as the inevitable "draw-down" of the well must affect the "subflow zone" above the perforation.

7. Wells located outside the lateral parameters of the defined "subflow" zone are not included unless it is proven that their "cones of depression" reach the "subflow" zone and the drawdown from the well affects the volume of surface and "subflow" in such an appreciable amount that it is capable of measurement.

B. Edge of the Principal or Dynamic Channel

The reports of Don Young for the State and William G. Wellendorf for the Town of Mammoth and the Gila Valley Irrigation District (exhibits 5 and 8) propose the narrowest of the "subflow" zones, to wit: the edge of the bed of the principal channel which, interestingly enough, Mr. Wellendorf defines as the "Holocene" channel as

contrasted to Dr. Montgomery's "post-1880 entrenchment." Within its banks the low-flow stream meanders back and forth in large figure "S" curves. These banks are defined by the highest flows of one- to three-year flood cycles.

The sole merit of these proposals is the banks or edges of the channel are easily found on aerial photography: "just look for the white sand." He frankly admitted on June 1, 1994 that all he did was use the contour lines on the U.S.G.S. quad maps for the basin and little else. These contour lines bear no relationship to any geologic difference in the formation. Wellendorf's testimony clearly showed a theory of using the most easily found ground feature and then dealing with the real problems of surface water depletion on a case-by-case method by determining the extent of each well's "cone of depression." The problem with any proposal which emphasizes "cone of depression" solutions over finding an adequate "subflow" zone is that the determination of a well's "cone of depression" is a very complicated, difficult and expensive process. This is seen in the confrontational testimony of Montgomery, Ford and Page on how to use the various computer-program techniques and which program is more accurate or useful. All, however, agreed that "cone of depression" analysis is expensive and complicated, and that the assumptions necessary and the frequent lack of data to support such computer techniques reduce the reliability significantly.

Even witness Wellendorf agrees as is seen in this discussion between himself and the Court as reported on pages 64 and 65 of Volume VIII of the hearing transcript:

"THE COURT: Did you not make this statement on page 6 of your report, the last sentence of the middle paragraph: 'While empirical techniques exist to numerically model this technique, heterogeneities known to exist in aquifers quickly reduce the effectiveness of these techniques.'

I probably mispronounced 'heterogeneities.' Is that correct?

THE WITNESS: Yes.

THE COURT: What in fact you're basically telling us is that the technique of determining cones of depression, particularly when the elevation of the water level is not flat all the way across but is sloping down to the river and maybe [sic] sloping the other way naturally, is subject to a number of assumptions that make it very difficult.

THE WITNESS: Correct.

THE COURT: So from your standpoint of what you've done, you've given us the narrowest subflow zone and set up the most complex method of determining what we're going to set up in this adjudication, because you are going to have to determine individually whether or not each well has a cone of depression which hits either your subflow zone or the stream flow, isn't that correct?

THE WITNESS: Yes."

Also, witnesses agreed no one with any common sense locates a well in the channel where the flooding expected on a one- to three-year basis can destroy the well's mechanical and electrical functions. Therefore, to

utilize a method which would put every single well in the basin outside the "subflow" zone – even where a well sits on the banks of the river 10 to 20 feet from its flow – presents a danger of turning this adjudication into a totally meaningless activity while the river is slowly sucked dry like the Santa Cruz River.

While Mr. Young suggest the vertical limits of his "subflow" zone are the top of the older alluvium or bedrock where no older alluvium exists, Wellendorf's vertical limit is almost impossible to find especially if one looks at his figure 2 exhibit of "Holocene Cross Channel Cross Section and Complete Fining Upward Sequence" (see exhibit 8). He appears to place his vertical bottom at bedrock. The testimony of this hearing indicated deep alluvial and basin-fill deposition. There was no testimony of how far it is to bedrock. The only limit is the HSR use of a 1,200 foot fill to determine the aquifer capacity of 85 million acre feet. The question then must be asked, "Why not the same basis for choosing the lateral limits as those used to choose the vertical limits?" When we note that what these two experts had done was draw a hypothetical line down the middle of the same geological unit, we must realize that their lateral limits have no geological, hydrological or riparian basis.

If that weren't enough, the real problem of this proposal is that the location of today's principal channel boundaries have no stability all as admitted by Mr. Wellendorf on page 78, line 8 to 23:

> "THE COURT: Let me ask you two other questions because of what she brought up. Dr. Montgomery suggested that the principal channel, while probably somewhat stabilized today,

has previously had and does still have some meander effect as compared to his theory of post-entrenchment alluvium. Would you agree with that?

THE WITNESS: Yes.

THE COURT: So that the channel is subject to being moved by high floods, high flows and things of that nature.

THE WITNESS: Yes, I think it would take a pretty major event.

THE COURT: Like some of the floods that are mentioned in Hereford's report?

THE WITNESS: Yes."

At the Paul Sale property near Winkelman on March 4, 1994, Mr. Sale explained how the 1983 flood had moved the channel 1,000 feet westward and wiped out 90 acres of his farm land. In 1993 the channel moved once more. This time it ended up 500 feet eastward after it moved westward again and took out 15 additional acres of his pecan orchard. Further, he also pointed out the several locations the principal channel had occupied since he had begun farming there in 1970 and how it had moved after the 1979, 1980, 1983 and 1993 floods.

On the last day of court testimony Steve Erb testified how a comparison of the 1935 aerial photograph to the more recent 1990 aerial photograph showed significant changes in location of the river channel from Pomerene north for several miles (see exhibits 260 and 261). During his cross-examination there was a discussion of an overall review of the 1935 aerial photography and a comparison to the latest 1990 photographs. This was also reviewed in

a discussion on our field trip at the beginning of March 4, 1994.

Also in the Hereford report (exhibit 190), page 8, figure 5, there is presented a clear representation of channel migration in a large meander about 2 miles north of the Hereford bridge. It illustrates channel movement of approximately 1,500 feet.

As a result of this, the Court requested that ADWR compares its 1935 aerial photography with its latest 1990 photos along the entire river and report any channel changes found. That report now completed indicates the channel is not stable. It often narrows and shifts significantly. The results of that study, exhibit 365 and Appendix E1 to E3 and the map of the area of the study (Appendix D) are attached. The study shows a single channel widening of up to 168 feet and a narrowing in 27 locations of from 67 feet to 976 feet. It also shows 28 shifts in overall channel location of from 66 feet to 1,200 feet.

Unfortunately none of the 1935 aerial photography was then placed in evidence during the ten-day hearing. The same was true of most of the 1990 aerial photography except for exhibits 260 and 261. This Court, therefore, brought the matter up at its monthly hearing on April 29, 1994 in the following manner as indicated by its minute entry of that date.

> "The Court, while working on the ruling for the trial, recalled the testimony of Steve Erb and the discussion with Mr. Sales [sic] regarding the movement of the river at Pomerene during the 1970, 1983 and 1993 floods. The Court requested that ADWR compare the 1935 and 1990 aerial photographs to determine the movement of the

> channel as well as what happened to the riparian areas along the river. The photos from 1935 are the earliest photos except for some old historical photos found in exhibit 190, the Hereford Report, and the book entitled The Changing Mile. ADWR did 26 transects on the river and found a substantial narrowing of the channel. The widest widening of the channel from 1935 to 1990 was 100 feet; the greatest narrowing was 900 feet. There was only one instance of widening but 25 instances of narrowing and 26 instances of substantial shifts, the largest of which was approximately 1,000 feet. The photographs will be available after the hearing and Chuck Cullom will answer questions from counsel. ADWR will have the materials available for the next 10 days and copies are available. The Court intends to use these studies for its ruling. If counsel wish to contest the results of this study, affidavits may be filed as was done with the rebuttal affidavits at the evidentiary hearing."

Thereafter several parties filed affidavits. Salt River Project filed an Affidavit of Jon Ford who supports the conclusions of ADWR and opines what appears to be a rational reason for the narrowing of the channel to wit: vegetative growth during periods of low water flow, consisting of phreatophytes above the "subflow" zone, attempts to fill in all but the low-flow channel. However, during periods of high flow the erosive force of the floods "clean out" these vegetative obstructions. William G. Wellendorf also filed an Affidavit which basically criticized ADWR's technique of photo interpretation.

Dr. Errol Montgomery also filed an Affidavit which also attempts to critique ADWR's photo comparison method, but basically agrees with ADWR's substantial conclusions that there is substantive evidence of a narrowing of the principal channel from 1935 to 1990 and some shifting of its location. Basically Dr. Montgomery's Affidavit was directed to showing that most, if not all, of these shifts in location and size took place within the boundaries of what he proposes for the "post-1880 entrenchment" and deposition zone.

As the affidavits increased, there was a further request for an evidentiary hearing and the Court agreed to hold such and did on June 14 and 15, 1994.

The hearing produced testimony from Charles Cullom of ADWR who did all of its reports on the comparative aerial photo interpretation, Jon Ford for SRP, William Wellendorf for the Town of Mammoth and Drs. Schumm and Montgomery for the groundwater users.

While all agreed that an attempt to compare early aerial photography (1935) to recent photography (1990) was a difficult scientific process which could not produce exact comparisons, all agreed that experienced analysts could determine important information if carefully done. This Court believes all who testified were very experienced, did a careful job and the results were very important in that it showed:

1. The principal channel in nearly every instance where a comparison could be made was narrowed often significantly between 1935 and 1990.

2. When that narrowing occurred, there was often a shift in location of the whole channel to the east or west. In several instances this shift took it beyond the channel parameters of either Wellendorf, Young, Schumm or Montgomery. See exhibits 260, 261, 313, 317, 319, 320,324, 325, 328, 330, 331, 332, 333, 334, 335, 338, 339 and 365.

Exhibits 313 and 365 are the latest ADWR calculations of the channel changes on the 28 transects mentioned previously. Exhibit 331 is the calculation made by Errol L. Montgomery and Associates, Inc. from the same aerial photography. The latter two exhibits (365 and 331) are also attached as Appendix E-4 and E-8. In addition to those calculations, this Court made its own comparison of each of the aerial photographs and based on all of the above finds:

CHANNEL MOVEMENT				
TRANSECT LOCATION	CHANNEL SIZE	FEET	DIRECTION OF MOVEMENT	FEET
1a	widen	168'	east	500'
2a	narrowed	207'	west	491'
2b	narrowed	307'	east	656'
2c	narrowed	477'	east	288'
2d	narrowed	104'	east	143'
3a	narrowed	170'	east	449'
3b	narrowed	439'	west	429'
3c	narrowed	398'	east	530'
3d	narrowed	134'	east	107'
4a	narrowed	236'	east	190'
4b	narrowed	337'	west	557'
5a	narrowed	100'	west	64'
5b	narrowed	630'	west	541'
5c	narrowed	62'	east	964'
6a	narrowed	134'	west	234'
6b	narrowed	100'	west	1200'
6c	narrowed	0'	west	667'
6d	narrowed	300'	east	466'
7a	narrowed	367'	west	700'
7b	narrowed	200'	east	500'
7c	narrowed	100'	east	100'
7d	narrowed	133'	east	133'
8a	narrowed	966'	west	900'
8b	narrowed	400'	east	366'
8c	narrowed	200'	east	233'
9a	narrowed	500'	east	433'
9b	narrowed	800'	east	500'
9c	narrowed	399'	east	566'

In spite of all of the protestations of Mr. Wellendorf and Dr. Montgomery that, in their opinions, the channel from 1935 to 1990 was "stable," any view of the channel location as shown on these two sets of aerial photographs taken fifty-five years apart shows the invalidity of those opinions.

While the Court clearly finds that the Wellendorf and Young proposal of the principal channel as the extent of the "subflow" zone is without merit, the Court does find that the parameter of that channel does constitute the innermost portion of that zone.

C. "Post-1880 Entrenchment" and Deposition

The principal theory proposed by the "groundwater users" and its supporters is the theory of Drs. Montgomery and Schumm that "subflow" is best defined by use of the lateral limits of what they claim is the post-1880 depositional layer and the vertical limit is the bottom of the Holocene or the top of the basin fill. Unfortunately, neither of their reports filed on December 14, 1993 (exhibits 6 or 7) mentioned this theory. Dr. Montgomery proposed basically the same lateral limits as Dr. Wellendorf and Mr. Young – a smoothed principal channel – and Dr. Schumm proposed nothing as 17 of the 19 pages of his expert report were taken up with his "curriculum vitae." Only two court days before trial, the new theory was revealed in a "Disclosure Statement" which presenters of witnesses including the groundwater users did not have to file. In spite of its late disclosure, the Court permitted the theory to be presented and it still thinks it appropriate because the entrenchment and deposition theory is

supported by the work of Richard Hereford (exhibit 190). However, the Hereford Report only discusses a portion of the upper San Pedro basin. There is no mention of the lower basin from Pomerene north. His work probably related to the part of the basin he knew best. A copy of the map of the area in which he worked is attached as Appendix G.

The lower basin is quite different physically and geographically. This was quite evident form the field trip. The lower river valley is much narrower. The gradient of the stream is steeper. There are more areas of thicker vegetation. The mountains and adjacent foothills encroach closer to the river. The Court has attached seven oblique aerial photographs as Appendix H, I, J, K, L, M, and N. The first three are typical views of the upper basin and the last four are typical of the lower basin. The differences between the basins are quite evident in comparing the different sets. With regard to the lower basin, the last four photographs present a fairly clear view of where the basin fill meets the floodplain alluvium and how the riparian vegetation can be used to define the "subflow" zone in some areas.

This Court will not comment on the charges of lack of credibility that the opponents of the groundwater users seem to dwell on because of their late disclosure. This Court assumes that Drs. Montgomery and Schumm became aware of the Hereford Report after their initial investigation and decided that the geologic unit which that report presented made a lot more sense than the edges of a stream channel. This was probably for the same reasons this Court pointed out previously. It was

also easier to defend; and one can hardly fault them for that.

Having said that, the Court believes the lack of channel stability discussion previously set forth on pages 39 to 43 of this Order applies equally to Montgomery and Schumm's theory as to Wellendorf and Young's theory of the edge of the principal channel. The "post-1880 entrenchment" and deposition theory is entirely dependent on the deeper entrenchment of the channel after 1880. If that channel lacks stability, it is difficult to understand how the deposition, which takes place after such flooding entrenchment, can have any more stability than the channel it follows. Moreover, if as Hereford suggests, most depositional layers occurred after 1937 while the entrenchment started 50 to 57 years earlier, that geologic unit's lateral stability must be considerably less than that of the Holocene which started after the "Ice Age" and has been in place 10,000 or more years. A post-1937 depositional era, at best, is a minuscule portion of geologic time.

When cross-examined about the lack of channel stability as discussed previously on pages 39 to 43, Dr. Montgomery's position was that such stability problems related only to the physical channel itself and since he relied on the parameters of the "post-1880 entrenchment," the problem did not affect the validity of his opinion. However, after viewing the 1969 infrared aerial photograph of the area north of Benson and past Pomerene, his exhibits 340 and 341, he had to agree that the 1935 channel was significantly different and much of it outside of his defined "post-entrenchment" boundaries from the Benson railroad bridge north to Pomerene and in the Cascabel area.

Much as Drs. Montgomery and Schumm might desire the Court to accept these variations from where they first located this "post-1880 entrenchment" corridor, there are other facts which further erode their "stability" claim for this post-1880 entrenchment" theory which are as follows:

1. The location of the original dam for the Pomerene Canal was located in Township 17S, Range 20-21E, section 25. It is obvious that the original dam had to be located in the channel of the river as it was the source of the community of Pomerene's irrigation water at that time. However, when the 1921 flood destroyed and moved that dam downstream, it was replaced with a newer dam in section 36 to the southwest. Yet, the Montgomery designation of the "post-1880 entrenchment" defines a different channel and fails to recognize the old channel where the first dam was. (See exhibits 86 and 319.) By measurement it is clear Dr. Montgomery's "post-1880 entrenchment" leaves out at least 4,000 feet of old channel, some of which is 700 to 800 feet east of their designated "post-1880 entrenchment" corridor.

2. Also, in sections 3 and 4 of Township 15S, Range 20E, there is another large area missed in the original designation of exhibit 88. It is now shown on exhibit 320 and was referred to in the testimony of June 14, 1994 as an area of probably an early attempt at an orchard.

3. Another important area of misdesignation is the area of the Paul Sale property, sections 5, 6 and 8 of Township 6S, 12 and 16E. (See exhibit 321 to 325 which are transparencies of the channels boundaries as shown

on the 1935, 1947, 1955 and 1990 and most recent evolution after the 1993 floods.) In comparing these exhibits with exhibit 91, the map on which Dr. Montgomery or his associates drew the parameters of the "post-1880 entrenchment" channel, it is clear they missed by nearly 1,000 feet in some places, the east edge of channel in sections 5, 6 and 8 as shown on the 1935 aerial photography.

Attached as Appendix O-1 to O-5 are exhibits 317, 319, 320, 325 and 338 which indicate the misdesignations of the channel in the areas of the Benson railroad bridge to the north, the dam for the Pomerene Canal, Cascabel and the Paul Sale property.

Also, if one examines the exhibits prepared by Dr. Montgomery's firm which are exhibits 332, 333, 334 and 335, and the enlargements of the first three which are exhibits 347, 348 and 349, it is clear that even he agrees that at transects 2a, 2c, 3b, 3c, 3d, 5a, 5b, 5c, 6b, 6c, 6d, 8a, 8b, 8c, and 9b the 1935 aerial photography shows the channels of the river as located outside of those parameters of what he calls his "post-1880 entrenchment." Copies of exhibits 332 to 335 are attached as Appendix O-6 through O-9.

Another problem with this "post-1880 entrenchment" theory is the lack of consistency between the lateral and vertical limits of the proposed "subflow" zone as discussed previously. Also, it must be pointed out that with a knowledge that this post-1937 depositional layer has a thickness of from 4 to 13 feet and some of it is "vadose" or non-saturated, we have at best a saturated post-1937 layer of from 0 to 10 feet. In most of the river's length it

sits above or is inset in the Holocene layer. Therefore, the Holocene layer below it must be totally saturated for the balance of its 40 to 200 feet of depth. In spite of this, Drs. Montgomery and Schumm as well as Mr. Young propose a vertical limit of "subflow" at the bottom of the Holocene and admit that any well which has perforations below it and in the basin fill will quite quickly draw down water from the Holocene. The water pulled from any "subflow" zone will quickly affect the volume of the surface stream above.

A "subflow" zone defined by this post-1937 depositional layer theory has very few wells located within its lateral limits. This, of course, increases the number of the "cone of depression" analyses which must be made. The problems associated with this analysis have been previously discussed.

At the end of the first 10 days of hearings, Drs. Montgomery and Schumm finally hung their hats on two principal claims:

1. The post-1880 or post-1937 depositional layers are significantly more permeable than the Holocene; and,

2. The Holocene is cemented in a way that bonds the sand, gravel and boulders into a consolidated mass through which less water can pass.

However, the testimony of Dr. Maddock, Steve Erb, Jon Ford, Oliver Page and Allan Gookin are all in direct conflict with those claims. Further, the drill logs of the recent drilling by Ford and Page disprove this theory as did ADWR's interpretation of the ADOT drill logs on the bridges on I-10 at Benson and the Charleston and Lewis

Springs bridges. This is also true of other well logs in the area including the well logs of the Magma wells at site number 11 on our field trip 5 miles south of Mammoth (see the rebuttal affidavits of Ford and Page, exhibits B, C and D attached to the Salt River Project Post-Hearing Brief of March 18, 1994 and exhibits 262, 271, and 281 from the trial).

Probably the most confrontational of all the field trip discussions between Drs. Montgomery and Schumm and Jon Ford and Oliver Page occurred on the afternoon of March 4, 1994 at site 11. It was at the southwest corner of the cultivated field and in the river bed adjacent thereto shown on exhibit 78 in evidence and attached as Appendix M. Here Drs. Montgomery and Schumm tried to explain why the field just east of the river and the wells located adjacent thereto were not in the "subflow" zone. This was, they claimed, because the "post-1880 entrenchment" deposits which were only in the sandy areas adjacent to the river, were more permeable and less cemented than the Holocene alluvium which underlay the cultivated fields and large phreatophytic areas of mesquite out of which those fields extracted. A look at the photograph (Appendix M) shows the physical relationships. To the knowledgeable eye it probably shows the edge of the "subflow" zone where the phreatophytes meet the basin fill rather than simply the sandy banks of the river as claimed by Drs. Montgomery and Schumm. Further, in spite of all their claims of new kinds of tests as to permeability and cementational differences between the post-1937 depositional layer and the Holocene it was inset into, three Magma wells drilled in 1991 in this very area and shown in ADWR well log registration records

reveal the true underground record when they showed the following:

Well #1, registration #55-529969, drilled 2/26/91
sand, gravel and cobbles from 0 to 45 feet
clay from 45 to 47 feet
sand gravel and cobbles from 47 to 63 feet

Well #2, registration #55-529971, drilled 2/26/91
sand, gravel and clay from 0-32 feet
sand, gravel and cobbles from 32-65 feet

Well #3, registration #55-530124, drilled 1/28/91 to 2/8/91, to 1000 feet of depth
sand and gravel from 0-70 feet

This last well was drilled by Dr. Montgomery's firm. (See the attachments to the Salt River Project Post-Hearing Brief all of which are copies of drill log records filed with ADWR as required by statute.

Obviously, Magma's own well-drilling logs do not support the Montgomery/Schumm theory of higher permeability and less cementation of this post-1937 depositional layer.

In the opinion of the Court, the weight of the evidence clearly fails to indicate any significant difference in permeability between what Drs. Montgomery and Schumm contend is a "post-1880 entrenchment" depositional layer and the balance of the Holocene floodplain alluvium of which it is a part. The Court finds the testimony of Messrs. Erb, Ford, Page and Gookin have the greater weight and the exhibits presented showed no indication of any claimed differences.

It is incongruous for the groundwater users to first claim that there is a great disparity between the lithology,

hydraulic conductivity, and other characteristics of the post-entrenchment alluvium and the Holocene, and then advocate that the post-entrenchment alluvium be used only to define the lateral limits of "subflow" with the Holocene to be utilized to set its vertical extent. This is particularly true when the entrenchment is only 5% to 10% of the Holocene depth.

Even Dr. Montgomery's own Report on October 2, 1987 (exhibit 11 of the 1987 hearings) describes the floodplain alluvium of the San Pedro in the following terms:

"FLOODPLAIN ALLUVIUM

Geologic Feature

> Floodplain alluvium occurs along the San Pedro river and its major tributaries. . . . Records of water wells which penetrate the unit near San Manuel indicate that the thickness of the floodplain alluvial deposits ranges from about 30 to 205 feet. The floodplain alluvium is commonly coarse-grained and consists *chiefly of non-consolidated sand, gravel, and boulders.* (emphasis added)

Groundwater Features

> In the Lower San Pedro Basin, the groundwater level commonly occurs above the base of the floodplain alluvial deposits, and the lower parts of the unit are saturated. the deposits are highly permeable, comprise efficient infiltration media, and yield large amounts of groundwater to wells that are completed in the unit. *Because the deposits are commonly coarse-grained and on-consolidated, the floodplain alluvial deposits are usually the most permeable of the hydrogeologic units in the basin.* The floodplain alluvium accepts and

> transmits recharge water from stream flow. Groundwater in the unit generally occurs under confined conditions." (emphasis added)

There is no mention therein of any "post-1880 entrenchment" or depositional unit, its high degree of permeability or lack of cementation.

This Court finds the groundwater users theory of limitation of the parameters of the "subflow" zone to be without merit. However, like the principal-challenge boundary theory out of which it evolved, the Court believes the lateral bounds of this theoretical unit are within the parameters of a broader "subflow" zone wider than these groundwater users propose.

D. The Nature Conservancy Riparian Zone

The position of the Nature Conservancy is urged by an attorney and hydrologist whose efforts were *pro bono*. It is a pleasure to have such people involved and to be able to largely agree with their position. Their proposed alternatives were:

> "It is clear from all of the evidence that the only reasonably acceptable geologic unit by which subflow may be defined is the holocene alluvium by whatever norm referred to." (p. 2)

Alternatively they submitted:

> " . . . it is not necessary to resolve the geologic debate in order to define the subflow zone. Fortunately, nature has already provided readily observable surface indicators of where this underground water is located, those being the

phreatophytic plants located in the riparian area or zone immediately adjacent to the river." (p. 5)

If we were limited to only physical evidence of water use at a particular location which had an observable effect on the height of the flow in the stream itself, only the testimony about phreatophytes would meet that test. During our field trip there were anecdotal accounts by Messrs. Lomeli and Smallhouse and Ms. Clark about observable water use by phreatophytes that had a direct, immediate and measurable impact on the surface flow of the adjacent stream. These impacts occurred on a daily or diurnal basis and changes in stream flow were readily observable as were seasonal variations, all relating to the metabolic functions of the plants. The testimony was that the fall and winter seasonal changes could double the stream flow because the leaves were off the trees and there was no transpiration occurring. While daily changes between daylight and dark were not as great, they were clearly discernible. Even Dr. Montgomery agreed when cross-examined by Steven Weatherspoon about a camping experience where the flow was non-existent when he and his son went to sleep, but the stream flowed in the morning because the stream recharged itself at night when the phreatophytes' pumping mechanism was not in effect. No one can be surprised by such facts when the water balance of the San Pedro previously discussed showed that of its total produced supply of 158,610 acre feet, approximately 1/8 or 52,600 acre feet went into phreatophytic use.

The evidence is undisputed that riparian plants directly draw off and diminish the surface flow of adjacent streams. Riparian forestation meets the test of "In re

Gila" which asks, "Does the drawing off the surface water tend to diminish appreciably and directly the flow of the surface stream" (p. 393 of 179 Ariz.) Moreover, this Court accepts that we have a readily usable definition of "Riparian Area" in A.R.S. § 45-101(b):

> " 'Riparian area' means a geographically delineated area with distinct resource values, that is characterized by deep-rooted plant species that depend on having roots in the water table or its capillary zone and that occurs within or adjacent to a natural perennial or intermittent stream channel or within or adjacent to a lake, pond or marsh bed maintained primarily by natural water sources. Riparian area does not include areas in or adjacent to ephemeral stream channels, artificially created stockponds, man-made storage reservoirs constructed primarily for conservation or regulatory storage, municipal and industrial ponds or man-made water transportation, distribution, off-stream storage and collections systems."

Unfortunately, this Court does not believe that delineation of all riparian areas in their predevelopment stage, as advocated by the Nature Conservancy, will be as easy as it thinks. A look at the 1935 aerial photography of the area does not easily show the boundaries of riparian area in a predevelopment stage. Even then there were large areas of agricultural field development, particularly in the St. David and Pomerene areas. The same is also true in the lower basin where Jack Smallhouse told us his family once farmed 2,000 acres along the river. The field trip in the Hereford and Palominas areas shows fields long cultivated but now unused with limited phreatophyte invasion. Another problem is that in the true

predevelopment age before the significant overgrazing of the late 1800s and early 1900s, the heavy grass cover of the upper basin prevented much phreatophication. (See exhibit 190, page 15.) The other side of the coin is that as cultivated fields along the river went out of production, phreatophication increased. (See figures 16 to 19 of exhibit 190.) This is clearly shown by the pictures of the Palominas Bridge taken in 1939 and 1991 which were attached. This shows the problem of phreatophication increases, resultant channel narrowing and later highly erosive effects of flooding when high flows are forced through narrower and narrower channels all as described in the Affidavits of Ford and Wellendorf.

In addition to the study of channel changes and shifts, this Court also requested ADWR to also analyze any change in riparian habitat along the San Pedro River from 1935 to 1990. The study indicated significant riparian changes from reductions of "up to 3,100 feet along one transect to an additional 1,900 feet along another transect." (A copy of that analysis, also a part of exhibit 365, is attached as Appendix F-1, F-2 and F-3.) A study of the 1990 aerial photography shows nearly all reductions to be the result of cultural development such as new agricultural fields.

Figure 5, page 8 of exhibit 190, which is reproduced in Oliver Page's Report for Stetson Engineering in exhibit 2 as its figure 7, and is attached here as Appendix P, shows the lateral migration of this river from 1890 to date in a large meander about 2 miles north of Hereford. Based on our March 4, 1994 field trip, that area is one of many old and new channels. There is nearly a mile of phreatophytic width in this area.

To the extent that phreatophication exists or can be documented in the areas adjacent to the principal challenge, it does mark that portion of the area of the "subflow" zone. If it extends to the lateral edge of the saturated floodplain Holocene alluviam, then it is a vital marker. However, even phreatophytes cannot tell the difference between floodplain alluvium and tributary aquifer alluvium and, therefore, can be a false marker. The boundaries of the riparian zones are helpful and certainly within the "subflow" zones if they do not extend over onto the top of tributary aquifer or basin fill. After consideration of flow direction, water level elevation, the gradation of water levels over a stream reach, the chemical composition if available, and lack of hydraulic pressure from tributary aquifer and basin fill recharge which is perpendicular to stream and "subflow" direction, the Court finds the most accurate of all the markers is the edge of the saturated floodplain Holocene alluvium.

E. The Saturated Floodplain Holocene Alluvium

Throughout the hearings, field trip and later briefing, the parties have used the terms Holocene, younger alluvium, and floodplain alluvium interchangeably. This Court believes the proper terminology for the geologic unit which defines "subflow" is the "saturated floodplain Holocene alluvium." That term is used deliberately. Both the Holocene or younger alluvium and the basin fill are descended from the same source, the rock of uplifting mountains. While the depositional processes were somewhat different, where these units meet it is sometimes difficult to discern the differences between one type of

eroded, depositional debris from another, particularly when they may both be saturated and water bearing. Moreover, water, when it fills the porosity of a geologic unit, doesn't know the difference between what is "subflow," younger alluvium or basin fill. However, only the younger Holocene alluvium can pass the test of "subflow" as it is the only stable geologic unit which is beneath and adjacent to most rivers and streams, except those in the mountains where bedrock surrounds the flow.

Also, in order to fulfill the definition of "subflow," the geologic unit must be saturated because of the need for a hydraulic connection between the stream and the "subflow." Further definition requires "subflow" to be a part of the surrounding floodplain of the stream basin. Those parts of the alluvial plain which it may be a part of or which it is connected to must be the alluvial plain of a perennial or intermittent stream and *not* an ephemeral stream or a part of the alluvial plain of a tributary aquifer even if there is an alluvial connection. Where the alluvial plain of tributary aquifers or ephemeral streams connects to the floodplain Holecene alluvium of the stream itself and provides tributary or basin fill recharge, that tributary aquifer must also be excluded because its flow direction is different and often perpendicular to the streamflow direction.

The evidence here shows that the only true geologic unit which is beneath and adjacent to the stream is the floodplain Holocene alluvium. When it is saturated, that part of the unit qualifies as the "subflow" zone, where the water which makes up the saturation flows substantially in the same direction as the stream, and the effect of any

side discharge form tributary aquifers and basin fill is overcome or is negligible. Because low-flow streams like the San Pedro meander back and forth in a series of "S" curves within a wider principal or dynamic channel, flow direction must be the general overall direction of the stream. As Steve Erb testified, as long as the subflow's direction is within 45 degrees of that general stream flow direction, the flow direction requirement is met.

If we add the following additional criteria, then even more certainty and reliability is provided. *First*, the water level elevation of the "subflow" zone must be relatively the same as the stream flow's elevation. *Second*, the gradient of these elevations for any reach must be comparable with that of the levels of the stream flow. *Third*, there must be no significant difference in chemical composition that cannot be explained by some local pollution source which has a limited effect. *Fourth*, where there are connecting tributary aquifers or floodplain alluvium of ephemeral streams, the boundary of the "subflow" zone must be a least 200 feet inside of that connecting zone so that the hydrostatic pressure effect of the side recharge of this tributary aquifer is negligible and the dominant direction of flow is the stream direction. *Fifth*, where there is a basin-fill connection between saturated zones of the floodplain Holocene alluvium and a saturated zone of basin fill, the boundary of the "subflow" zone must be 100 feet inside of the connecting zone so that the hydrostatic pressure effect of the basin-fill's side discharge is overcome and the predominant direction of flow of all of the "subflow" zone is the same as the stream's directional flow. The different distances used to overcome the side pressure of the tributary aquifer and basin fill are based

on the testimony of Steve Erb given on February 14, 1994 and the different rates of permeability and transmissivity of the different geological units. Appendix Q attached is a copy of exhibit 266 received at trial which represents the best illustration of the relationship of the "subflow" within a reach of floodplain alluvium and basin fill. Appendix R attached shows the relationship of the saturated stream alluvium of the San Pedro and its two tributaries, the Bobocamari and the Aravaipa, to the entire basin of the San Pedro.

The weight of the evidence points to the saturated floodplain Holocene alluvium as the most credible "subflow" zone. Its lateral and vertical limits have existed for some 10,000 or more years. It has far more stability of location than any other proposal including the principal channel which changes approximately every three years, or the post-1880 depositional layer which is really "post-1937" at best, or "post-1955" as indicated in the Hereford Report (exhibit 190 page 8).

It may be true that the surface of the latest layer of deposition resulting from the January 1993 flood is more permeable than the overall permeability of the entire Holocene. But, as Ford, Page, Gookin and Erb testified, and all the drill log results show, there is no significant difference in permeability between the post-1937 layer and the balance of the Holocene. Even the claims by the groundwater users of cementation in the Holocene do not stand up. Not a single drill log supports it. All the claims of the use of the wrong drilling bit do not support it. Even Dr. Montgomery's Report of October 2, 1987 refutes it. While there may be some evidence of cementation in certain layers, there is no evidence it is unit-wide, or that

it makes any significant difference in permeability or transmissivity. Therefore, regardless of claims to the contrary, the weight of this evidence supports the saturated floodplain Holocene alluvium as the "subflow" zone.

"CONES OF DEPRESSION"

"In re Gila," page 391 of 175 Ariz., describes a "cone of depression" as the "funnel-shaped area around a well, where the water table has been lowered by the withdrawal of groundwater through the well." That clinical description of a "cone of depression" tells us little of the destructive ability of wells upon basin and range streams in a desert or semi-desert environment such as the Santa Cruz River and the San Pedro River.

On February 1, 1994 Dr. Maddock discussed the "cone of depression" in the Sierra Vista area. He referred to it as "notorious." His computer modeling predicted that 37% of the water which comes from the well systems which serve the area comes out of the San Pedro which is either in the stream or on the way to the stream. He estimated the latter portion to be 1%. Exhibit 163 in evidence is his illustration of how the "cone of depression" in that area has grown since 1968. It clearly shows and the testimony was that the "cone" is in excess of five miles. A copy of Dr. Maddocks' exhibit is attached as Appendix S. In his opinion, the "cone of depression" has clearly intersected the stream.

Mr. Erb testified on February 15 that the Tenneco agricultural wells, shown on exhibit 271 in evidence, which location runs from the border twenty miles north, were shut down in the mid-1980s when Tenneco sold its

holdings to the BLM for the creation of the San Pedro River National Conservation Area. The drawdown of these wells had turned some parts of the river in this area from perennial to intermittent, and some sections were even ephemeral. After more than eight years of shut down, only one mile of the river is now more perennial than before. On our field trip, however, we found no ephemeral sections and all were at least intermittent. Local residents explain that the large January 1993 flood created large basin-wide recharge and the higher flows observed may be the result of that recharge. A copy of exhibit 271 is attached as Appendix T showing the relationships of the wells in the area to the river. The wells adjacent to the areas of discontinued irrigation are the former Tenneco wells.

What these facts show is that "cones of depression" have long-term effects even after the wells are shut down. Two recent Colorado cases make that clear. *Danielson v. Castle Meadows*, 791 P.2d 1106 (Colo. 1990) and *State Engineer v. Castle 6 Meadows*, 856 P.2d 406 (Colo. 1993) discuss the long-term effect of post-pumping depletion. In the "Danielson" case the trial court had found that post-pumping depletions could continue up to and after 200 years. In the remanded trial which took place in 1991, the trial court found the post-pumping depletions could continue up to and after 400 years. In both cases the Colorado Supreme Court found that these post-pumping depletions had to be remedied by the pumps to protect surface water users under COLO. REV. STAT. § 37-90-137(9)(c). In Colorado, augmentation plans, which are approved by the water decree, are used to remedy possible harm to other appropriations.

All of the principal witnesses agreed that even wells located outside of a steam's "subflow" could, over time, build up extensive "cones of depression" which could severely affect the volume of stream flow and the "subflow" which supported it. Even Dr. Montgomery agreed the Santa Cruz was a dead river except where Nogales' effluent created some perennial but polluted flow. This, all agreed, was the result of overpumping, often outside of anyone's "subflow" parameters. Often those wells had extensive and interconnecting "cones of depression." Appendix U, V, W, X, Y and Z attached, are copies of diagrams from exhibit 1 received in evidence at trial and illustrate the effects of "cones of depression."

In the "In re Gila" opinion only one paragraph relates to "cones of depression." It is worth repeating:

> "For example, if the cone of depression of a well has expanded to the point that it *intercepts* a stream bed, it *almost certainly* will be *pumping subflow.* At the same time, however, it may be drawing water from the surrounding alluvium. Thus, part of its production may be appropriable subflow and part of it may not. *Even though only a part of its production is appropriable water, that well should be included in the general adjudication."* (p. 391 of 175 Ariz.) (emphasis supplied)

The testimony seemed unanimous that consistent with the Supreme Court's pronouncement, if a "cone of depression" of a well intercepts what is eventually defined as the "subflow" zone, then at least some percentage of the water discharged by the well is water subject to the adjudication. As Montgomery admitted,

stream depletion occurs as soon as the "cone of depression" reaches the stream, even though it may be some time before the hydraulic gradient at the river is reversed, and may be many years before a particle travels from the stream to the well. *See* Tr. VI at 14, 49-50. Ford and Page contend that streamflow depletion first takes place when the cone intersects the stream, not when the hydraulic gradient is reversed or the molecule of streamflow is ejected by the well. Tr. I at 47 (Ford); Tr. II at 182 (Page). It is beyond dispute that even before the gradient is reversed, a measurable drawdown at the stream's "subflow" zone necessarily results in water leaving the zone in order to fill the void which has been created by the well. Ford's Report, exhibit 1, at 51 [when the cone intersects the "subflow" zone, it "induce[s] subflow to leave (deplete the Subflow Zone and the stream")]. This is true even where the gradient has not been reversed everywhere between the well and the stream. (Ford's Report at 63-67, especially Fig. 9.3 and Table 9.3)

The groundwater pumpers' position cannot be reconciled with the Supreme Court's unequivocal conclusion that when a "cone of depression" is intersecting the stream bed, it "*almost certainly*" is "pumping subflow." Apart from their molecule and gradient arguments, no serious opposition has been offered to the approach which was proposed by Ford or Page for handling wells located outside the "subflow" zone. In fact, there appears to be substantial agreement on most points.

For example, Montgomery agreed with Ford that various analytical or modeling methods are appropriate to calculate "cones of depression." Tr. I at 52 (Ford); Ford's Report at 3, 51, C-1 – C-7; Tr. IV at 18-19 and Tr. VI at 13

(Montgomery). Similarly, Ford and Montgomery agree that the calculation of the cone should be based upon the well's entire history of pumping. Tr. I at 52, 54-57 (Ford): Tr. VI at 128-29 (Montgomery). They also agreed that individual analysis of wells is the most appropriate method to compute drawdown at the "subflow" zone. Tr. I at 85 (Ford); Ford's Report, p. 37; Tr. VI at 24 (Montgomery). How this is to be done must be left to the discretion of ADWR as this Court finds there was not testimony of how technically certain determinations were to be made scientifically.

While Salt River Project proposes that a drawdown of 0.1 foot be used for purposes of calculating the "cone of depression," this Court believes such close measurements are difficult, at best, in the field. Rather, it believes that whatever test ADWR finds is realistically adaptable to the field and whatever method is the least expensive and delay-causing, yet provides a high degree of reliability, should be acceptable. While several of the experts arrived at different conclusions, Ford, Page, Montgomery, Erb and Stephenson all testified to a degree that the Court feels assured that scientific method is available to determine below-ground saturation, water level, elevation, gradient, flow direction and extent of "cones of depression."

The Court finds, subject to any *de minimis* standard later to be adopted by the Court, that any well located outside the "subflow" zone that now pumps any percentage of water either from the stream itself or its "subflow" zone, should be included in the adjudication and the total amount of water withdrawn subjected to this proceeding. If we wait until actual water molecules from the San

Pedro River are discharged from the many wells which surround it but are not in the "subflow" zone, there may not be sufficient stream flow left to justify this entire adjudication.

PRESUMPTION AND BURDEN OF PROOF

"In re Gila" on page 392 of 179 Ariz. says:

> "If DWR uses the proper test and relies on appropriate criteria for determining whether a well meets the test, its determination that a well is pumping appropriable subflow constitutes clear and convincing evidence. It is consistent with Arizona law, then, to require the well owner to come forward with evidence that DWR is wrong."

This Court agrees that the entire process of the adjudication requires that the independent evaluations of ADWR are entitled to a presumption in their favor and the property owner or an objector to a claim supported by an HSR has the duty to come forward with evidence to overcome that presumption. However, there are questions in the mind of this Court after hearing long periods of evidence over the last fourteen years. They are whether the quality of geologic or hydrologic opinion, the frequent lack of data, and the many assumptions which cannot be fully proven support a requirement that the property owner or objectors should have to overcome a clear and convincing level of burden of proof. Every expert who has attempted to develop opinions as to "cones of depression" often relies on assumptions which are not provable or are only partially provable. The conflicts between Montgomery, Schumm, Ford, Page and Erb in that specific area raise

real concern as to the fairness of raising the evidentiary level of burden of proof to clear and convincing for a property owner or objector to overcome a DWR opinion in an HSR. Even if we eliminate many of our *pro per* claimants with a proper *de minimis* rule, this is probably too formidable a barrier for the remainder of those *pro per* parties. It is often too much for represented parties of modest wealth. Only when we get to parties such as the mines, United States, Salt River Project, the State of Arizona and cities of major size are there sufficient assets of fund such evidentiary battles. At least in the area of "cones of depression" a burden of proof of preponderance seems fairer. The same is probably also true in the area of a "subflow" zone determination.

CONCLUSION

The issues here are geologically, hydrologically and factually complex. While courts often deal with complex issues, reviewing appellate courts sometimes are unable to glean from the briefs little more than a summary of the complex evidentiary background and the scientific principles which led to the trial court's decision. To overcome this limitation in this proceeding, this Court believes it has a duty to provide as much detail as it can to explain the factual decisions made, the scientific principles relied on, as well as to provide copies of many of the exhibits considered. It has done that here.

Finally, the length and complexity of this decision requires a summarization of the Court's findings as to "subflow" and dealing with "cones of depression."

1. A "subflow" zone is adjacent and beneath a perennial or intermittent stream and not an ephemeral stream.

2. There must be a hydraulic connection to the stream from the saturated "subflow" zone.

3. Even though there may be a hydraulic connection between the stream and its floodplain alluvium to an adjacent tributary aquifer or basin-fill aquifer, neither of the latter two or any part of them may be part of the "subflow" zone.

4. That part of the floodplain alluvium which qualifies as a "subflow," beneath and adjacent to the stream, must be that part of the geologic unit where the flow direction, the water level elevations, the gradations of the water level elevations and the chemical composition of the water in that particular reach of the stream are substantially the same as the water level, elevation and gradient of the stream.

5. That part of the floodplain alluvium which qualifies as a "subflow" zone must also be where the pressure of side recharge from adjacent tributary aquifers or basin fill is so reduced that it has no significant effect on the flow direction of the floodplain alluvium. (i.e., a 200-foot setback from connecting tributary aquifers and a 100-foot setback from the basin-fill deposits).

6. Riparian vegetation may be useful in marking the lateral limits of the "subflow" zone particularly where there is observable seasonal and/or diurnal variations in stream flow caused by transpiration. However, riparian vegetation on alluvium of a tributary aquifer or basin fill

cannot extend the limits of the "subflow" zone outside of the lateral limits of the saturated floodplain Holocene alluvium.

7. All wells located in the lateral limits of the "subflow" zone are subject to the jurisdiction of this adjudication no matter how deep or where these perforations are located. However, if the well owners prove that preformations are below an impervious formation which preclude "drawdown" from the floodplain alluvium, then that well will be treated as outside the "subflow" zone.

8. No well located outside the lateral limits of the "subflow" zone will be included in the jurisdiction of the adjudication unless the "cone of depression" caused by its pumping has now extended to a point where it reaches an adjacent "subflow" zone, and by continual pumping will cause a loss of such "subflow" as to affect the quantity of the stream.

Dated this 30th day of June, 1994.

/s/ Stanley Z. Goodfarb
Hon. Stanley Z. Goodfarb

LIST OF DOCUMENTS APPENDED TO ORDER OF THE SUPERIOR COURT OF THE STATE OF ARIZONA IN AND FOR THE COUNTY OF MARICOPA, FILED JUNE 30, 1994

Appendix Item	Description of Document
A	Page 71 of San Pedro River HSR [Hydrographic Survey Report].
B	Page 250 of San Pedro River HSR [Hydrographic Survey Report].
C-1	Page 252 of San Pedro River HSR [Hydrographic Survey Report].
C-2	Page 253 of San Pedro River HSR [Hydrographic Survey Report].
C-3	Page 254 of San Pedro River HSR [Hydrographic Survey Report].
D	San Pedro Watershed Study Transects
E-1	Exhibit 313. DWR Analysis of San Pedro River Channel Changes from 1935 to 1990.
E-2	Exhibit 313. [Tables Referencing Lewis Spring, Fairbank, Land, and Benson Photos.]
E-3	Exhibit 313. Paul L. Sale Property Channel Shift approximately 950 feet as determined from previous mapping and communication with the property owner.
E-4	Exhibit 365. DWR San Pedro River Study Transects – Channel Change.

E-5	Exhibit 365 [Untitled table referencing channels]
E-6	Exhibit 365 [Untitled table referencing channels]
E-7	Exhibit 365 [Untitled table referencing channels]
E-8	Exhibit 331. Table of Reported Distances along 28 Transects Identified by Arizona Department of Water Resources from 1935 and 1990, Aerial Photographs of the San Pedro River.
F-1	Exhibit 313. DWR Analysis of Change in Riparian Habitat along the San Pedro River from 1935 to 1990.
F-2	Exhibit 313. [Tables Referencing Lewis Spring, Fairbank, Land, and Benson Photos].
F-3	Exhibit 313. [Tables Referencing Galleta Flats East, Wildhorse Mnt. And Clark Ranch Photos].
G	Upper San Pedro River, Arizona. Figure 1. The study area in southeast Arizona.
H	Photograph 4. San Pedro River Map 1 (Near Palominas) about 2 miles Northeast from Palominas, View Toward East.
I	Photograph 6. San Pedro River Map 1 (Near Palominas) about 2 miles Northeast from Palominas, View Toward West.
J	Photograph 7. San Pedro River Map 1 (Near Palominas) about 1 mile South from Hereford, View Toward Southwest.

K	Photograph 11. San Pedro River Map 5 (Near Cascabel) about 7 miles Southeast from Cascabel, View Toward East.
L	Photograph 12. San Pedro River Map 6 (Near Redington) about 8 miles North from Redington, View Toward North.
M	Photograph 13. San Pedro River Map 7 (Near San Manuel) about 3 Miles Northeast from San Manuel, View Toward Northwest.
N	Photograph 14. San Pedro River Map 7 (Near San Manuel) about 1 mile South from Mammoth, View Toward Northeast.
O-1	Exhibit 317. Comparison of 1935 San Pedro River Channel and Montgomery's Post-1880 Entrenchment near Benson.
O-2	Exhibit 338 [Untitled Topographic Map]
O-3	Exhibit 319. Extent of Entrenchment of San Pedro River. Vicinity of Pomerene Canal Company Dam.
O-4	Exhibit 320. Extent of Entrenchment of San Pedro River. Vicinity of AWDR Exhibit 260.
O-5	Exhibit 325. Extent of Entrenchment of San Pedro River. Vicinity of Paul Sale Property.
O-6	Exhibit 332. Physical Relation between "Sandy Wash" Locations in 1935 and 1990 Based on Arizona Department of Water Resources Reported Distances in feet, and Lateral Extent of Post-1880 Entrenchment Channel Based on Hearing Exhibit Numbers 209 and 210 for Transects 2a, 2b, 2c, 2d, 3a, and 3b.
O-7	Exhibit 333. Physical Relation between "Sandy Wash" Locations in 1935 and 1990

Based on Arizona Department of Water Resources Reported Distances in feet, and Lateral Extent of Post-1880 Entrenchment Channel Based on hearing Exhibit Numbers 210 and 211 for Transects 3c, 3d, 4a, 4b, 5a, 5b, and 5c.

O-8 Exhibit 334. Physical Relation between "Sandy Wash" Locations in 1935 and 1990 Based on Arizona Department of Water Resources Reported Distances in feet, and Lateral Extent of Post-1880 Entrenchment Channel Based on Hearing Exhibit Numbers 212 and 213 for Transects 6a, 6b, 6c, 6d, 7a, 7b, 7c and 7d.

O-9 Exhibit 335. Physical Relation between "Sandy Wash" Locations in 1935 and 1990 Based on Arizona Department of Water Resources Reported Distances in feet, and Lateral Extent of Post-1880 Entrenchment Channel Based on Hearing Exhibit Number 215 for Transects 8a, 8b, 8c, 9a, 9b, and 9c.

P Exhibit 2. Lateral Channel Migration in the San Pedro River.

Q Exhibit 266. Hydrogeology of the Benson Area.

R Exhibit 1. San Pedro Watershed.

S Exhibit 163. Drawdown since substantial pumping started in 1940.

T Exhibit 271. Discontinued Irrigation within SPRNCA.

U Exhibit 1. Cone of Depression and Drawdown.

V Exhibit 1. Cones of Depression for High and Low Transmissivity Aquifers.

W Exhibit 1. Sources of Recharge to Aquifers.

X Exhibit 1. Drawdown that Results when Cones of Depression Overlap.

Y Exhibit 1. Ground Water Divide Between Two Wells.

Z Exhibit 1. Overlapping Cones of Depression Near a Stream.

APPENDIX C

857 P.2d 1236
175 Ariz. 382

In re the GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN the GILA RIVER SYSTEM AND SOURCE.

Nos. WC-90-0001-IR, WC-90-0001-IR to WC-90-0007-IR and WC-79-0001 to WC-79-0004.

Supreme Court of Arizona, En Banc.

July 27, 1993.

Jennings, Strouss & Salmon by M. Bryon Lewis, John B. Weldon, Jr., Lisa M. McKnight and Stephen E. Crofton, Phoenix, for Salt River Project, Salt River Valley Water Users' Ass'n.

John D. Leshy and Dale E. Pontius, Washington, DC, for the Nature Conservancy.

O'Connor, Cavanagh, Anderson, Westover, Killingsworth & Beshears by Ralph E. Hunsaker, Phoenix, for Church of Jesus Christ of Latter Day Saints; and Peabody Coal Co., amicus curiae.

John S. Schaper, Phoenix, for Buckeye Irr. Co. and Buckeye Water Conservation & Drainage Dist.

Alicia F. Tocco, Phoenix, for Vanosdell Farms.

Roderick G. McDougall, Phoenix City Atty. by M. James Callahan and Katherine Ott Verburg, Phoenix, for City of Phoenix.

Snell & Wilmer by Robert B. Hoffman and Carlos D. Ronstadt, Phoenix, for Arizona Public Service Co., Magma Copper Co., and Farmers Inv. Co.

Shiela B. Schmidt, Phoenix, for Arizona Public Service Co.

Fennemore Craig, P.C. by James W. Johnson and Lauren J. Caster, Phoenix, for Cyprus Christmas Min. Co., Cyprus Miami Min. Co., Cyprus Pima Min. Co., Cyprus Sierrita Min. Co., and Cyprus Twin Buttes Min. Co.

Ellis, Baker & Porter, P.C. by William D. Baker, Teresa H. Foster and Paul R. Orme, Phoenix, for Cent. Arizona Irr. & Drainage Dist., Maricopa-Stanfield Irr. & Drainage Dist., New Magma Irrigation & Drainage Dist.

Brown & Brown by David Albert Brown, Saint Johns, for Little Colorado Water Ass'n, amicus curiae.

Frederick S. Dean, Tucson City Atty. by Frederick S. Dean and Loretta Humphrey, Tucson, for City of Tucson.

Ryley, Carlock & Applewhite, P.A. by George Read Carlock, Michael J. Brophy, Sheryl A. Taylor and Barry R. Sanders, Phoenix, for Roosevelt Water Conservation Dist.

Quarles & Brady & Fannin by William H. Anger and Daniel L. Muchow, Phoenix, for Cities of Chandler, Glendale, Mesa and Scottsdale.

Apker, Apker, Haggard & Kurtz by Burton M. Apker, Jerry L. Haggard and Gerrie Apker Kurtz, Phoenix, for Asarco Inc. and Phelps Dodge Corp.

Steptoe & Johnson by Bruce Babbitt, Monica L. Goebel, Steven M. Hoffman and David J. Bodney, Phoenix, for Verde Valley Claimants.

United States Dept. of Justice by Gary B. Randall, Steven E. Carroll, Robert L. Klarquist, F. Patrick Barry,

Dirk D. Snel and William H. Swan, Washington, DC, for the U.S.

Burch & Cracchiolo, P.A. by Edwin C. Bull and Daryl D. Manhart, Phoenix, for Roosevelt Irr. Dist.

Grant Woods, Atty. Gen. by Joseph E. Clifford, III, Carol L. Sacks and Cynthia M. Chandley, Phoenix, for State of Ariz.

Cox and Cox by Alfred S. Cox, Z. Simpson Cox, and Alan J. Cox, Phoenix and Rodney B. Lewis, Sacaton, for Gila River Indian Community and Silas Kisto.

Lewis and Roca by Tom Galbraith and Paul D. Ellsworth, Phoenix, for Paloma Inv. Ltd. Partnership.

David R. Merkel, Tempe City Atty. by Karen S. Gaylord, Tempe, for City of Tempe.

Perry, Pierson & Kolsrud by Mark S. Sifferman, Phoenix, for Tenneco West, Inc. and Tenneco Arizona Properties Corp.

Greene, Meyer & McElroy by Scott McElroy, Boulder, CO, for the Navajo Nation.

Kimball & Curry, P.C. by Dalva L. Moellenberg and D. Lee Decker, Phoenix, for Apache Nitrogen Products, Inc. and Arizona Rock Products Ass'n, amicus curiae.

Douglas C. Nelson, Phoenix, for Gila Bend-Dendora Valley Water Users Ass'n.

Jennele Morris O'Hair, Casa Grande, for Cities of Benson and Sierra Vista, and Town of Mammoth.

Riney B. Salmon, II and Augustine Jimenez, III, Phoenix, for Maricopa County Mun. Water Conservation Dist. and San Carlos Irr. & Drainage Dist.

Sparks & Siler by Joe P. Sparks, Kevin T. Tehan, and John H. Ryley, Scottsdale, for San Carlos Apache Tribe of Arizona, Tonto Apache Tribe, Yavapai Apache Indian Community, and Camp Verde Reservation.

Meyer, Hendricks, Victor, Osborn & Maledon by Lee H. Storey and Jay I. Moyes, Phoenix, for Rio Rico Properties, Inc.

Martinez & Curtis, P.C. by William P. Sullivan and Michael A. Curtis, Phoenix, for Town of Wickenburg, Town of Gilbert, Cortaro-Marana Irr. Dist., Pima County, Ariz., Cortaro Water Users' Ass'n, Bella Vista Water Co., Inc., Bella Vista Ranches Ltd. Partnership, and Valencia Water Co., Inc.

Pamela L. Vining and Beus, Gilbert & Morrill by Lisa M. Martin, Phoenix, for represented claimants.

Sonosky, Chambers & Sachse by Harry R. Sachse and William R. Perry, Washington, DC, and Office of the Gen. Counsel by Michael P. O'Connell, Kykotsmovi, for the Hopi Tribe, amicus curiae.

OPINION

FELDMAN, Chief Justice.

This appeal presents the second of six issues accepted for interlocutory review on December 11, 1991. We decide today whether the trial court erred in adopting a test to determine whether the underground water known as

subflow is appropriable under A.R.S. § 45-141. We have jurisdiction pursuant to A.R.S. § 45-252 and ARIZ. CONST. art. 6, § 5(3).

FACTS AND PROCEDURAL HISTORY

This case is a consolidated general adjudication brought under A.R.S. § 45-251 *et seq.* to determine the extent and priority of the rights of all persons to use water in the Gila River system and source. For the full procedural history of the case, see *Arizona v. San Carlos Apache Tribe of Arizona*, 463 U.S. 545, 103 S.Ct. 3201, 77 L.Ed.2d 837 (1983); *United States v. Superior Court*, 144 Ariz. 265, 270-71, 697 P.2d 658, 663-64 (1985), *In re Rights to the Use of the Gila River*, 171 Ariz. 230, 232-33, 830 P.2d 442, 444-45 (1992). For the present opinion, the relevant facts are brief.

For five days in October 1987, the trial court held hearings on the relationship between surface water and groundwater. Hydrologists and hydrological engineers testified and submitted reports on the relation between ground and surface water in general, and in the San Pedro and Santa Cruz watersheds in particular. The hearings were for the general education of all parties and the court, but the material adduced at the hearing was to be considered evidence on which the court could rely when appropriate.

Following the hearings, several cities[1] filed a Motion to Exclude Wells From the General Adjudication, asking

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[1] Those cities were Chandler, Tempe, Mesa, Scottsdale, Glendale, Peoria, Goodyear, Casa Grande, Avondale, Nogales,

the trial court to exclude from the adjudication all wells pumping percolating groundwater, and to include only those wells pumping surface flow and subsurface flow, within the meaning of *Maricopa County Municipal Water Conservation District No. One v. Southwest Cotton Co.*, 39 Ariz. 65, 4 P.2d 369 (1931) ("*Southwest Cotton* "). The trial court decided to use the cities' motion, and the information developed at the hearings, as a vehicle to resolve several surface water and groundwater issues. Thus, in January 1988, the trial court ordered the parties to brief eight specific questions it believed it could decide as a matter of law based on the evidence adduced at the October 1987 hearings. In May 1988, the trial court heard argument and in September it issued its order answering those questions.

One of the eight questions the trial court answered in its September order was:

> Is ground water included within the phrase "river system and source" as it is used in A.R.S. §§ 45-141 and 45-251(4), and if so, to what extent is it included?[2]

The trial court concluded that underground water is included in the river system and source if it is a stream's

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and Prescott.

[2] A.R.S. § 45-141(A) reads:

> The waters of all sources, flowing in streams, canyons, ravines or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to appropriation and beneficial use as provided in this chapter.

subflow, as that term is used in *Southwest Cotton*. The effect of this ruling was to declare that groundwater pumpers extracting water within the court's definition of "subflow" were diverting water appropriable under A.R.S. § 45-141(A). Therefore, their rights to that water would depend on the priority of their appropriation, rather than on an owner's right to remove water percolating under the surface of the owner's land.

The court then concluded that certain wells withdrawing water from the younger alluvium of a stream basin should be presumed to be pumping appropriable subflow. The court instructed the Department of Water Resources ("DWR") to designate such wells in its hydrographic survey reports[3] as pumping appropriable subflow if:

> As to wells located in or close to that younger alluvium, the volume of stream depletion would reach 50% or more of the total volume pumped during one growing season for agricultural wells or during a typical cycle of pumpage for industrial, municipal, mining, or other uses, assuming in all instances and for all types of use that the period of withdrawal is equivalent to 90 days of continuous pumping for purposes of technical calculation.

The court acknowledged that this test (the "50%/90 day rule") appeared to be somewhat arbitrary but explained it was essential for use in instructing DWR in the preparation of its hydrographic survey reports. Well owners

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[3] These hydrographic survey reports are to be prepared by DWR pursuant to A.R.S. § 45-256 as part of its role as technical advisor to the trial court.

would be allowed to prove that their wells were not pumping subflow at the time of their evidentiary hearing.

Many parties sought review of this ruling pursuant to this court's Special Procedural Order Providing for Interlocutory Appeals and Certifications, filed September 26, 1989. We granted review and framed the issue as follows:

> Did the trial court err in adopting its 50%/90 day test for determining whether underground water is "appropriable" under A.R.S. § 45-141?

THE ISSUE

This issue arises from the way Arizona water law has developed from territorial days. Those seeking a detailed history of the evolution of Arizona water law, going back to the organization of the Arizona Territory, are referred to John D. Leshy & James Belanger, ARIZONA LAW WHERE GROUND AND SURFACE WATER MEET, 20 ARIZ.ST.L.J. 657 (1988). As will be seen below, rights associated with water found in lakes, ponds, and flowing streams – surface water – have been governed by the doctrine of prior appropriation. This doctrine developed in the western part of the country where the common law riparian rights doctrine was unsuited to prevailing arid conditions. On the other hand, underground water has been governed by the traditional common law notion that water percolating generally through the soil belongs to the overlying landowner, as limited by the doctrine of reasonable use. *Id.*

This bifurcated system of water rights was not unique to Arizona. It was typical of western states until around the turn of the twentieth century. At that time,

scientific investigation was revealing that most underground water is hydraulically connected to surface water. As scientific knowledge progressed, most states revised their water laws to provide for unitary management of hydraulically connected underground and surface water. Arizona, however, did not, and continues to adhere to a bifurcated system of water rights, with compelling implications for general stream adjudications. *Id.*

The purpose of a general stream adjudication under title 45 is to determine the rights of all persons to use the waters of a river system and source. A.R.S. § 45-252(A). "River system and source" is defined as "all water appropriable under [A.R.S.] § 45-141 and all water subject to claims based upon federal law." A.R.S. § 45-251(4). Thus, basic to this case is the extent to which water pumped from wells must be treated as appropriable under § 45-141 or, conversely, as groundwater excluded from the legal rules applying to prior appropriation. The need to resolve the question early in the proceeding impelled us to grant review.

HISTORICAL PERSPECTIVE

We start with *Southwest Cotton*, this court's early and most important attempt to enunciate the relative rights of groundwater and surface water users. The court's comment in that case applies to the present dispute:

> The case is one of the most important which has ever come before this court, involving as it does not only property interests of [great] value . . . but also a declaration of legal principles which will in all probability determine and govern to a great extent the course of future

> . . . development within the arid regions of Arizona. The real question involved is the law applicable to the relative rights to the ownership and use of the subterranean waters of the state as against those of the surface waters.

39 Ariz. at 71, 4 P.2d at 372.

Southwest Cotton involved a suit by Southwest Cotton Company and others ("Southwest Cotton") against Maricopa County Municipal Water Conservation District No. 1 and others ("Conservation District"). Southwest Cotton owned a large tract of land west of Phoenix. It drilled almost one hundred wells in and around the Agua Fria River bed[4] to irrigate 19,000 acres. In 1925, plans for a dam on the Agua Fria River upstream of Southwest Cotton's development matured, and the Conservation District floated bonds to finance the project. Southwest Cotton sued to enjoin the project, fearing that the upstream dam would prevent water from reaching the downstream wells.

In the trial court, Southwest Cotton argued that the water it pumped was subject to appropriation under the predecessor of A.R.S. § 45-141(A).[5] The trial court ruled for Southwest Cotton, holding that the water was appropriable as water flowing in definite underground channels.

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[4] The Agua Fria River flowed only intermittently. Southwest Cotton's wells were located in an area roughly ten miles wide and twenty miles long. Some were in the river bed, and others ranged from a few feet to six miles from the river.

[5] Southwest Cotton also claimed rights to a surface diversion in connection with a tunnel and canal system at what was known as the Marinette heading.

On appeal, Southwest Cotton advanced three theories: (1) percolating underground water was appropriable; (2) water running in underground channels was appropriable; and (3) subflow of the Agua Fria River was appropriable. This court decided to treat all issues as matters of first impression. First, it addressed Southwest Cotton's claim that percolating groundwater is appropriable. At the time of *Southwest Cotton*, percolating water was defined generally as water that passes through the ground and does not form part of a body of water or a water course. 2 Clesson S. Kinney, THE LAW OF IRRIGATION AND WATER RIGHTS § 1188, at 2152 (2d ed. 1912). It was further classified with reference to the streams or other bodies of water to which it was tributary. "Diffused percolations" were not tributary to any definite surface or underground stream or body of water. *Id.* "Percolating waters tributary to surface water" were, as the name implies, "waters which infiltrate their way through the adjoining ground to some surface water course or other body of surface water." *Id.* § 1193, at 2162.

The *Southwest Cotton* court examined Arizona statutes from 1864 and its previous decisions and reaffirmed its prior holding that percolating subterranean water was not subject to appropriation. 39 Ariz. at 84, 4 P.2d at 376. Language in the opinion makes it clear that the court meant that all percolating water, however classified, was not subject to appropriation. While distinguishing certain California cases on which Southwest Cotton relied, the court stated:

> Whether [the water underlying Southwest Cotton's land] be diffused percolations in the common law sense of the term . . . , or whether it be

> percolating waters whose extraction will tap other waters, . . . is immaterial in this instance, for neither class is subject to appropriation under the law of Arizona.

Id. at 100, 4 P.2d at 382.[6]

The court also addressed Southwest Cotton's argument that its water came from underground streams. The court rejected that argument because there was insufficient evidence to show that Southwest Cotton's wells tapped underground channels with known and definite banks from which Arizona law allowed appropriations. *Id.* at 95, 4 P.2d at 380.

Finally, the court addressed the argument that Southwest Cotton was pumping appropriable subflow of the Agua Fria River. The court defined "subflow" as

> those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream.

Id. at 96, 4 P.2d at 380.

> In almost all cases the so-called subflow is found within, or immediately adjacent to, the bed of the surface stream itself.

Id. at 97, 4 P.2d at 381.

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[6] Any decision as to what law applied to percolating water was left for another day. *Id.* at 83-84, 4 P.2d at 376. That day arrived more than twenty years later. *See Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953), which established the right of the surface owner to reasonable use of the water percolating under his property.

Subflow "physically . . . constitute[s] a part of the surface stream itself, and [is] simply incidental thereto." *Id.* at 96, 4 P.2d at 380. It is subject to the same rules of appropriation as the surface stream itself. *Id.* at 97, 4 P.2d at 380-81.

The court set forth a test for determining whether underground water is appropriable subflow. First, it wrote:

> The best test which can be applied to determine whether underground waters are as a matter of fact and law part of the surface stream is that *there cannot be any abstraction of the water of the underflow without abstracting a corresponding amount from the surface stream,* for the reason that the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow.

Id. at 96, 4 P.2d at 380 (emphasis added). In the next paragraph, the court wrote:

> Not only does [subflow] move along the course of the river, but it percolates from its banks from side to side, and the more abundant the surface water the further will it reach in its percolations on each side. But, considered as strictly a part of the stream, the test is always the same: *Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream?* If it does, it is subflow, and subject to the same rules of appropriation as the surface stream itself; if it does not, then, although it may originally come from the waters of such stream, it is not, strictly speaking, a part thereof, but is

> subject to the rules applying to percolating waters.

Id. at 96-97, 4 P.2d at 380-81 (emphasis in original).

Concluding that there was no evidence that Southwest Cotton's pumping directly or appreciably diminished the flow of the river, the court reversed and remanded the case for a new trial. *Id.* at 99, 106, 4 P.2d at 381, 384.

Until *Bristor v. Cheatham*, 73 Ariz. 228, 240 P.2d 185 (1952) ("*Bristor I* "), this court consistently applied *Southwest Cotton's* rule that percolating groundwater is not subject to appropriation. In *Bristor I*, the court held by a 3-2 margin that percolating water was subject to appropriation. The court granted rehearing, however, and fourteen months later reversed itself by a 3-2 margin. In *Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953) ("*Bristor II* "), the majority reaffirmed our prior holdings that percolating water is not subject to appropriation. Arizona's courts have followed *Bristor II* to this day.

DISCUSSION

The parties in this appeal generally agree that *Southwest Cotton* is at the heart of the issue before us. One group argues that *Southwest Cotton's* concept of subflow is narrow, and that the 50%/90 day rule is too broad, because it includes wells that pump underground water not appropriable under A.R.S. § 45-141(A). Another group argues that *Southwest Cotton's* concept of subflow is broad, and that the 50%/90 rule is too narrow, because it fails to include all wells that pump appropriable subflow. The third group argues that the trial court was correct.

Although it seems to agree that the 50%/90 day rule is not faithful to *Southwest Cotton*, the third group contends that the trial court's order should not be disturbed because it merely creates a rebuttable presumption. We address this argument first.

A. The presumption

The 50%/90 day rule was formulated to instruct DWR in the preparation of hydrographic survey reports, and merely creates a rebuttable presumption that wells meeting the test are pumping subflow. Nonetheless, if the test is defective, its use would adversely affect the adjudication. It would plant errors in every hydrographic survey report, which would have to be litigated according to the procedures set out in the Rules for Proceedings Before the Special Master, Rules 6.00-16.00. This would exacerbate an already lengthy and costly process. Perhaps even more significantly, use of a flawed test for identifying wells pumping subflow could cause significant injustice. Many surface owners unable to mount a challenge could effectively lose their right to pump percolating groundwater, simply because their wells were improperly presumed to be pumping appropriable subflow. Considering the time, expense, and importance of accurate hydrographic survey reports, and the complex lawsuits over their correctness, it would be a senseless waste to use a flawed presumption for identifying wells pumping subflow.

B. Applying the rule of Southwest Cotton

1. *Stare decisis*

We now determine whether the trial court's 50%/90 day rule accurately reflects *Southwest Cotton's* subflow rationale. We perceive our role as interpreting *Southwest Cotton*, not refining, revising, correcting, or improving it. We believe it is too late to change or overrule the case. More than six decades have passed since *Southwest Cotton* was decided. The Arizona legislature has erected statutory frameworks for regulating surface water and groundwater based on *Southwest Cotton*. Arizona's agricultural, industrial, mining, and urban interests have accommodated themselves to those frameworks. *Southwest Cotton* has been part of the constant backdrop for vast investments, the founding and growth of towns and cities, and the lives of our people. Of course, this court is not absolutely bound by *stare decisis* and may change judge-made law, especially when the need for change is apparent, the error or confusion in previous decisions is evident, and change is possible without causing significant damage. We have done so in the recent past. *See Wiley v. Industrial Commission*, 174 Ariz. 94, 847 P.2d 595 (1993). We do not do so lightly, however, or in the absence of compelling reasons. *State v. Huerta*, ___ Ariz. ___, 855 P.2d 776 (1993); *cf. State v. Lara*, 171 Ariz. 282, 285, 830 P.2d 803, 806 (1992).

If this principle applies to ordinary cases, it must be applied with particular care when the prospective effect of change threatens important vested rights and may affect every Arizonan's well-being. Thus, even though *Southwest Cotton* may be based on an understanding of

hydrology less precise than current theories, it would be inappropriate to undo that which has been done in the past. Instead, we will attempt only to resolve as best we can the ambiguities and uncertainties left by that decision. Given the inexact nature of the "direct and appreciable diminution" test laid down by *Southwest Cotton*, that in itself is no small task.

2. *Application*

Those who argue that the 50%/90 day rule is too narrow suggest that *Southwest Cotton's* test is very broad. They argue that pumping underground water from a tributary aquifer[7] causes direct stream depletion, either by intercepting water that otherwise would reach the stream or by de-watering an area, thereby inducing water to flow from the stream to fill the void. Such depletion is "appreciable," the argument goes, if it is "[c]apable of being estimated . . . or recognized . . . [;] perceptible." Citing OXFORD ENGLISH DICTIONARY (2d ed. 1989). These parties contend that any well pumping from a tributary aquifer is pumping subflow if it causes any measurable stream depletion in a period of one or more decades.[8] Viewed outside the context in which the *Southwest Cotton*

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[7] A tributary aquifer is an aquifer having a direct hydraulic connection with a stream or with another aquifer that has such a connection.

[8] The lead brief for those arguing that the test is too narrow suggests a period of ten years. The brief filed by the Nature Conservancy suggests a period of forty years. Both briefs allow for exclusion of wells that pump de minimis amounts of water or that have de minimis impact on surface streams.

test was formulated, that interpretation is plausible. Viewed in context, however, it clearly is too expansive from both geographical and time standpoints.

When *Southwest Cotton* was decided, subflow was a well known water law concept. The primary authority on which the *Southwest Cotton* court relied concerning subflow was 2 Kinney, *supra* § 1161. Kinney addressed the concept of subflow in Chapter 60, entitled "Subterranean Water Courses." He subdivided subterranean water courses into two general categories, known and unknown. Known subterranean water courses were those in which the channel had been identified. Unknown courses were those in which the channel had not been identified. *Id.* § 1155, at 2098-99. Known subterranean water courses were further subdivided into independent or dependent. Independent courses were those that flowed "independent of the influence of any surface streams." *Id.* § 1156, at 2100. Dependent courses were "waters . . . dependent for their supply upon the surface streams, or are the 'underflow,' 'sub-surface flow,' 'subflow,' or 'undercurrent,' as they are at times called, of surface streams." *Id.* § 1161, at 2106. Kinney's definition of subflow was the one used in *Southwest Cotton*. *See* 39 Ariz. at 96, 4 P.2d at 380.[9]

Kinney specifically discussed subflow in the context of intermittent streams, such as the Agua Fria River, at

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[9] *See also* BLACK'S LAW DICTIONARY 1425 (6th ed. 1990), defining "subflow" as "[t]hose waters which slowly find their way through sand or gravel constituting bed of a stream, or lands under or immediately adjacent to [a] stream."

issue in *Southwest Cotton*. He explained that a large volume of water flows through the sand and gravel underlying most streams in arid regions. During dry seasons, the surface of these streams may be dry, but water flows underneath the surface. This underground water is not a separate underground stream but still a part of the surface stream. 2 Kinney, *supra* § 1161, at 2106-10. Furthermore, speaking again about intermittent streams, Kinney wrote:

> [W]aters, in order to constitute the underground flow of surface streams, must be connected with the stream and strictly confined to the river bottom and moving underground, as was stated in a California case, "in connection with it, and a course with a space reasonably well defined." In other words, the water must be within the bed of the surface stream itself. Otherwise such underground waters must be classified with percolating waters, hereinafter discussed.

Id. § 1161, at 2110 (footnotes omitted).

In his later discussion of percolating water, Kinney wrote:

> Our second class of percolating waters we will define as those waters which infiltrate their way through the adjoining ground to some surface water course or other body of surface water.

Id. § 1193, at 2162 (footnote omitted). Kinney described what the parties in this case have referred to as tributary groundwater. He pointedly distinguished tributary groundwater from subflow:

> [Percolating waters tributary to surface waters] differ from the underflow of surface streams in the fact that they have not yet reached the channels of the water courses to which they are tributary; while, upon the other hand, the underflow of surface streams have reached these channels and are therefore dealt with as component parts of such streams.

Id. (footnote omitted).

Thus, Kinney defined subflow narrowly and specifically distinguished it from tributary groundwater. It is clear that we adopted that narrow definition in *Southwest Cotton*. The court's discussion of subflow, 39 Ariz. at 96-97, 4 P.2d at 380-81, is a virtual paraphrase of large portions of Kinney's discussion in § 1161, at 2106-10. Furthermore, in its answering brief Southwest Cotton made essentially the same argument that is being made in this proceeding. In a section of its brief entitled "Underground Waters Tributary to or Dependent Upon Surface Streams Subject to Appropriation as Part of the Stream," Southwest Cotton argued that underground water that is hydraulically connected – tributary – to surface water should be considered part and parcel of the surface stream. As such, it should be subject to appropriation as waters of the stream. Brief of Appellees (Conservation District) at 199-200.

The court rejected that argument, holding that all types of percolating water were not subject to appropriation under Arizona law. *Southwest Cotton*, 39 Ariz. at 84, 4 P.2d at 376. Having so held, it is unreasonable to suppose that the court then turned around and adopted a concept of subflow broad enough to include all underground

water hydraulically connected to a surface stream. It seems clear that the court considered subflow and tributary groundwater to be two different classes of underground water. The former is subject to appropriation under the predecessor of A.R.S. § 45-141(A); the latter is not.

The rehearing proceedings in *Southwest Cotton* further indicate the court's narrow view of subflow. In its petition for rehearing, Southwest Cotton argued that the court defined subflow too narrowly. It took issue with the use of the term "immediately" in the following portion of the opinion:

> The underflow, subflow, or undercurrent, as it is variously called, of a surface stream may be defined as those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or *immediately* adjacent to the stream, and are themselves a part of the surface stream.

39 Ariz. at 96, 4 P.2d at 380 (emphasis added). Southwest Cotton argued that neither Kinney nor any other text writer used the word "immediately" or any of its synonyms as a limitation on the word "adjacent." Petition for Rehearing at 22. In its opinion on rehearing, the court made no specific mention of this argument but essentially affirmed its original test for identifying subflow. *Maricopa County Mun. Water Conservation Dist. No. One v. Southwest Cotton Co.*, 39 Ariz. 367, 369, 7 P.2d 254, 254 (1932). Obviously, therefore, the court meant it when it said that in almost all cases "subflow is found within, or immediately adjacent to, the bed of the surface stream itself."

39 Ariz. at 97, 4 P.2d at 381. Subflow is a narrow concept. Thus, all water in a tributary aquifer is not subflow.

We believe the *Southwest Cotton* court drew a line between subflow as part of the stream and water in the surrounding alluvium that is either discharging into the stream or being discharged by the stream. That line is relatively close to the stream bed, with variations depending on the volume of stream flow and other variables. Thus, if a well is drawing water from the bed of a stream, or from the area immediately adjacent to a stream, and that water is more closely related to the stream than to the surrounding alluvium, as determined by appropriate criteria, the well is directly depleting the stream. If the extent of depletion is measurable, it is appreciable. This is not an all-or-nothing proposition. For example, if the cone of depression[10] of a well has expanded to the point that it intercepts a stream bed, it almost certainly will be pumping subflow. At the same time, however, it may be drawing water from the surrounding alluvium. Thus, part of its production may be appropriable subflow and part of it may not. Even though only a part of its production is appropriable water, that well should be included in the general adjudication.

We believe that the trial court's approach is inconsistent with *Southwest Cotton*. The trial court instructed DWR to apply the 50%/90 day test to all wells located in

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[10] The cone of depression is the "funnel-shaped area around a well, where the water table has been lowered by the withdrawal of groundwater through the well." 6 Robert E. Beck, ed., WATERS AND WATER RIGHTS 503 (1991).

or near the younger alluvium. The record shows, however, that in a given area the younger alluvium may stretch from ridge line to ridge line so that all wells in the valley would be in or near the younger alluvium. To say that all of an alluvial valley's wells may be pumping subflow is at odds with *Southwest Cotton's* statement that subflow is found within or immediately adjacent to the stream bed.

Likewise, the 50%/90 day "volume-time" test does not find its origin in *Southwest Cotton*. Given enough time, and with certain exceptions, all extractions from a tributary aquifer will cause a more-or-less corresponding depletion from stream flow volume. That, indeed, is the basis of the continuing controversy between groundwater pumpers and surface appropriators. *Southwest Cotton*, however, did not purport to identify subflow in terms of an acceptable amount of stream depletion in a given period of time. It sought to identify subflow in terms of whether the water at issue was part of the stream or was percolating water on its way to or from the stream.

Furthermore, the actual time and volume elements adopted by the trial court are essentially arbitrary. Under the trial court's test, a pumper extracting 1,000 acre feet, diminishing stream flow by "only" 499 acre feet within 90 days, would be presumed to be pumping groundwater, whereas a well owner extracting 100 acre feet, depleting stream flow by 51 acre feet, would be presumed to be pumping surface water. Nothing in *Southwest Cotton* or the record in this proceeding justifies so arbitrary a classification. The same, of course, is true of application of the 90-day time period. Why not 75 or 100 days?

Whether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time. As we stated above, it turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium. For example, comparison of such characteristics as elevation, gradient, and perhaps chemical makeup can be made. Flow direction can be an indicator. If the water flows in the same general direction as the stream, it is more likely related to the stream. On the other hand, if it flows toward or away from the stream, it likely is related to the surrounding alluvium. The present record certainly allows neither the trial court nor us to identify a definitive set of criteria. Furthermore, it also is likely that differences in geology and hydrology from location to location may require that different criteria be given more or less emphasis, depending on the area under analysis. The record allows neither the trial court, nor us, to make those determinations.

We conclude, therefore, that the 50%/90 day test for identifying wells presumed to be pumping subflow is inconsistent with *Southwest Cotton* and should not be used.

3. *The burden of proof*

The trial court's 50%/90 day rule created a presumption that wells meeting the test are pumping appropriable water. The burden of proof then fell on well owners to prove that their wells did not pump appropriable water. Those arguing that the 50%/90 day test is too narrow point out that under Arizona law underground water is

presumed to be percolating and that one claiming otherwise has the burden of proving the claim by clear and convincing evidence. *Neal v. Hunt*, 112 Ariz. 307, 311, 541 P.2d 559, 563 (1975); *Southwest Cotton*, 39 Ariz. at 85, 4 P.2d at 376. Thus, they conclude, the trial court's order improperly shifted to well owners the burden of proving that their wells do not pump appropriable water. We disagree. If DWR uses the proper test and relies on appropriate criteria for determining whether a well meets the test, its determination that a well is pumping appropriable subflow constitutes clear and convincing evidence. It is consistent with Arizona law, then, to require the well owner to come forward with evidence that DWR is wrong.

4. *The future*

Finally, we recognize that the line between surface and groundwater drawn by the *Southwest Cotton* court and reaffirmed by this court today is, to some extent, artificial and fluid. As discussed above, however, we do not feel free to redraw or erase that line. It is important to remember that the *Southwest Cotton* court did not create an all-encompassing set of common law principles. It purported, instead, to interpret the relevant statutes codifying the doctrine of prior appropriation and identifying the water sources to which the doctrine applied. Those statutes remain relatively intact. *See* A.R.S. § 45-141. Southwest Cotton argued at the time for a different interpretation of the statutes and the Arizona Constitution. Since *Southwest Cotton*, many have criticized Arizona's adherence to a bifurcated system of water management. *See* Leshy & Belanger, *supra*, at 657-60. Now, sixty years

later, similar arguments are made that *Southwest Cotton* misinterpreted our statutes and constitution. *See Id.* at 767-90. We recognize compelling arguments in favor of unified management of Arizona's water resources. Nonetheless, in the decades since *Southwest Cotton* was decided, the Arizona Legislature has not significantly altered the opinion's reach.

Southwest Cotton's concept of subflow added marginally to the statutory definition of water subject to appropriation, but we do not propose to rewrite the statute further by broadening the concept of subflow. We believe the trial court's 50%/90 day rule expands the clear words of A.R.S. § 45-141(A) to include not only waters flowing in streams but, potentially, waters pumped any place in the younger alluvium. The court's order does not explain the rule's derivation. The 50%/90 day rule does not comport with the tests laid down in *Southwest Cotton*. Water may be considered appropriable underflow if the "abstraction" by pumping results in "abstracting a corresponding amount from the surface stream." Considering subflow as "strictly a part of the stream, the test is always the same: *Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream?*" 39 Ariz. at 97, 4 P.2d at 380 (emphasis in original).

Thus, we reaffirm *Southwest Cotton's* narrow concept of subflow. We realize this does not solve the problems of equitably apportioning all available water in the state between conflicting interests and claims of groundwater users and surface appropriators. We believe, however, that in this area of the law, as much or more than any other, any appropriate change in existing law must come

from the legislature. *See* Arizona Groundwater Code, Title 45, ch. 2; *Chino Valley v. City of Prescott*, 131 Ariz. 78, 638 P.2d 1324 (1981). That is as it should be. As we stated in *Arizona Public Service Co. v. Long*, 160 Ariz. 429, 436, 773 P.2d 988, 995 (1989):

> Regulation of water use, . . . especially in a desert state, does not lend itself to case-by-case definition. In this field, we not only confer private rights and interests but deal in the very survival of our society and its economy. Simply put, there is not enough water to go around. All must compromise and some must sacrifice. Definition of those boundaries is peculiarly a function for the legislature. It is plainly not a judicial task. Accordingly, we must look to the legislature to enact the laws they deem appropriate for wise use and management.

D. Comprehensiveness Requirement

The United States is a party to this case under the McCarran Amendment, which gives consent to suits against the United States in state court adjudications that embrace "rights to the use of water in a river system or other source." 43 U.S.C. § 666(a). The United States argues that unless this adjudication includes all water hydrologically connected to the Gila River system, it will not be comprehensive enough to satisfy the McCarran Amendment requirement that it embrace all rights to the use of water in the river system or other source. At oral argument, the United States also asserted that the trial court in this case cannot exclude wells having only a de minimis effect on the river system. We disagree.

The McCarran Amendment recognizes that any decree from a water rights adjudication would be of little value unless it joined all parties owning rights to a stream or water source, including the United States. According to Senator McCarran, who introduced the bill and chaired the reporting committee:

> S. 18 is not intended . . . to be used for any other purpose than to allow the United States to be joined in a suit wherein it is necessary to adjudicate all of the rights of various owners on a given stream. This is so because unless all the parties owning or in the process of acquiring water rights on a particular stream can be joined as parties defendant, any subsequent decree would be of little value.

United States v. District Court in and for Eagle County, Colo., 401 U.S. 520, 525, 91 S.Ct. 998, 1002, 28 L.Ed.2d 278 (1971) (quoting from S.Rep. No. 755, 82d Cong., 1st Sess., at 9 (1951)). The McCarran Amendment was not intended to impose on the states a federal definition of "river system or other source." Rather, as the Court held in *Colorado River Water Conservation District v. United States*, 424 U.S. 800, 819, 96 S.Ct. 1236, 1247, 47 L.Ed.2d 483 (1976):

> The consent to jurisdiction given by the McCarran Amendment bespeaks a policy that recognizes the availability of comprehensive state systems for adjudication of water rights as the means for achieving [the goal of avoiding piecemeal adjudication of interdependent water rights by resolving them in a single unified proceeding].

The United States has cited no authority supporting its reading of the McCarran Amendment,[11] but there is contrary precedent. In *United States v. Oregon Water Resources Department*, 774 F.Supp. 1568, 1578 (D.Ore.1991), the court wrote:

> Finally, the United States and the Tribe argue that because the adjudicative procedures of the State of Oregon do not call for simultaneous adjudication of rights to surface water and rights to groundwater within a given river system, the adjudication is not comprehensive within the meaning of the McCarran Amendment. The language of the McCarran Amendment does not support this construction, and the United States and the Tribe point to no provision in the legislative history and no case precedent, state or federal, in support of this construction of the McCarran Amendment.

This correctly states the law.

We believe that the trial court may adopt a rationally based exclusion for wells having a de minimis effect on the river system. Such a de minimis exclusion effectively allocates to those well owners whatever amount of water is determined to be de minimis. It is, in effect, a summary

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[11] The United States provided this court with a copy of an unpublished decision of a California superior court in which the court granted a federal motion to dismiss on the ground that the proceeding was not comprehensive because it did not include groundwater users. We do not find that to be persuasive authority. In any event, the California court did not base its decision on what it perceived to be a rule of general application but on the peculiar facts of the case before it.

adjudication of their rights. A properly crafted de minimis exclusion will not cause piecemeal adjudication of water rights or in any other way run afoul of the McCarran Amendment. Rather, it could simplify and accelerate the adjudication by reducing the work involved in preparing the hydrographic survey reports and by reducing the number of contested cases before the special master. Presumably, Congress expected that water rights adjudications would eventually end. It is sensible to interpret the McCarran Amendment as permitting the trial court to adopt reasonable simplifying assumptions to allow us to finish these proceedings within the lifetime of some of those presently working on the case.

CONCLUSION

We vacate the portion of the trial court's September 8, 1988 order that formulated the 50%/90 day rule. We remand the matter to the trial judge to take evidence and, by applying the principles contained in this opinion, determine the criteria for separating appropriable subflow from percolating groundwater.

MOELLER, V.C.J., CORCORAN and ZLAKET, JJ., and WILLIAM E. DRUKE, Court of Appeals Chief Judge, concur.

MARTONE, J., did not participate in the determination of this matter; pursuant to ARIZ. CONST. art. VI, § 3, the Honorable WILLIAM E. DRUKE, Chief Judge of Division Two, Arizona Court of Appeals, was designated to sit in his stead.

APPENDIX D

IN THE SUPREME COURT OF THE
STATE OF ARIZONA

IN RE THE GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN THE GILA RIVER SYSTEM AND SOURCE	) Supreme Court Nos. WC-90-0001-IR [Includes WC-90-0001-IR through WC-90-0007-IR (Consolidated) & WC-79-0001 (WC-1 through WC-4 Consolidated)]
	) ORDERS CONCERNING PETITIONS FOR INTERLOCUTORY REVIEW
	) (Filed Dec. 11, 1990)

Following the adoption of a Special Procedural Order Providing for Interlocutory Appeals and Certifications, petitions for review were filed in Maricopa County Superior Court Nos. W-1, W-2, W-3, and W-4 (consolidated). On June, [sic] 27, 1990, this Court consolidated the petitions. Thereafter, numerous cross-petitions, responses and an amicus brief were filed.

Having considered the many petitions, cross-petitions, responses and the amici briefs, the Court has determined to grant review on six issues. These issues were raised, in some form or another, in many of the filings, but have been reformulated by the Court. Thus, the individual questions presented in the petitions and cross-petitions will be ordered granted "to the extent they address the issues" the Court has decided to review and "denied in all other respects." As set forth in part H.1 of the Special

Procedural Order Providing for Interlocutory Appeals and Certifications, the Court's decision to deny review of any question has no precedential value.

Moreover, the Court intends to address these six issues separately. Thus, this order establishes a date for a pre-submittal conference at which matters relating to Issue Number 1 will be determined. Any party wishing to participate in the resolution of Issue Number 1 must file a notice of appearance no later than twenty days before that pre-submittal conference. At some later time, the Court will issue an order setting the date for the pre-submittal conference regarding the next issue. Parties wishing to participate in the resolution of that issue will file notices of appearance, and that issue will be briefed, argued and submitted. The process will proceed in this manner until all issues have been submitted and decided.

It is, therefore,

ORDERED: Granting review by way of interlocutory appeal of the following issues:

1. Do the procedures for filing and service of pleadings adopted by the trial court in its Pre-trial Order Number 1 comport with due process under the United States and Arizona Constitutions?

2. Did the trial court err in adopting its 50%/90 day test for determining whether underground water is "appropriable" under A.R.S. § 45-141?

3. What is the appropriate standard to be applied in determining the amount of water reserved for federal lands?

4. Is non-appropriable groundwater subject to federal reserved rights?

5. Do federal reserved rights holders enjoy greater protection from groundwater pumping than holders of state law rights?

6. Must claims of conflicting water use or interference with water rights be resolved as part of the general adjudication?

FURTHER ORDERED: Scheduling a pre-submittal conference regarding Issue Number 1 for Tuesday, February 12, 1991 at 10:00 a.m., as required by part H.3 of the Special Procedural Order for Interlocutory Appeals and Certifications.

FURTHER ORDERED: Any party to the adjudication desiring to participate in the interlocutory appeal of Issue Number 1 shall file a notice of appearance in this Court no later than twenty days prior to February 12, 1991, the date set for the pre-submittal conference, as required by part I of the Special Procedural Order for Interlocutory Appeals and Certifications. The notice of appearance shall indicate the party's position on the issue.

With respect to the individual petitions and cross-petitions for review:

WC-90-0001-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. SALT RIVER PROJECT/SALT RIVER VALLEY WATER USERS' ASS'N**

ORDERED: Petition for Interlocutory Review [Petitioner Salt River Project]:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issues

Numbers 2 & 5; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issues Numbers 4 & 5; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 5 = Review is denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioner Church of Jesus Christ of Latter Day Saints]:

Review is granted and denied to the same extent that the petitions of City of Glendale, Roosevelt Water Conservation District, Arizona Public Service Company, Magma Copper Company, Farmers Investment Company, Cyprus Minerals Company, Apache Powder Company, City of Phoenix, Salt River Project Agricultural Improvement and Power District and the Salt River Valley Users' Association are granted and denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Vanosdell Farms]:

Review is granted and denied to the same extent that the petition of the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association is granted and denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

FURTHER ORDERED: Joinder in APS' Response to Petitions for an Order

Allowing an Interlocutory Appeal and Cross-Petition [Joint Respondent Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation District and New Magma Irrigation & Drainage District]:

Review is granted and denied to the same extent as the petitions of Arizona Public Service Co., Magma Copper Co., Farmers Investment Co., Roosevelt Water Conservation District and the City of Glendale are granted and denied.

FURTHER ORDERED: Cross-Petition and Response to Petitions for Interlocutory Review [Respondent Claimants Town of Wickenburg, Town of Gilbert, Cortaro-Marana Irrigation District, Cortaro Water Users' Association, Valencia Water Company, Bella Vista Water Company, Inc., and Bella Vista Ranches Limited Partnership]:

Issue A = Review is granted to the extent it addresses the Court's Issues Numbers 2, 3 & 4; review is denied in all other respects;

Issue B = Review is granted to the extent it addresses the Court's Issue Number 1; review is denied in all other respects.

WC-90-0002-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. BUCKEYE IRRIGATION CO. & BUCKEYE WTR CONSERVATION & DRAIN.**

ORDERED: Petition of Buckeye Irrigation Company and Buckeye Water Conservation & Drainage District to Review Portions of Superior Court Order of September 9, 1988:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 4; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 5; review is denied in all other respects;

Issue Number 4 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 5 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 6 = Review is denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

WC-90-0003-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. CITY OF PHOENIX**

ORDERED: Petition for Interlocutory Review [Petitioner City of Phoenix]:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is denied;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioner Church of Jesus Christ of Latter Day Saints]:

Review is granted and denied to the same extent that the petitions of City of Glendale, Roosevelt Water Conservation District, Arizona Public Service Company, Magma Copper Company, Farmers Investment Company, Cyprus Minerals Company, Apache Powder Company, City of Phoenix, Salt River Project Agricultural Improvement and Power District and the Salt River Valley Users' Association are granted and denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

WC-90-0004-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. ARIZONA PUBLIC SVC/MAGMA COPPER CO/FARMERS INVESTMENT CO**

ORDERED: Petition for an Order Allowing an Interlocutory Appeal and

Request for a Briefing Schedule [Petitioners Arizona Public Service Co/ Magma Copper Company/Farmers Investment Company]:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 4; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects.

FURTHER ORDERED: Joinder in APS Petition for Review and Notice of Intent to File Response to Petitions for Interlocutory Review [Joint Petitioner Cyprus Minerals Company and Apache Powder Company]:

Review is granted and denied to the same extent as the petition of Arizona Public Service Company, Magma Copper Company, and Farmers Investment Company is granted and denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioner Church of Jesus Christ of Latter Day Saints]:

Review is granted and denied to the same extent that the petitions of City of Glendale, Roosevelt Water Conservation District, Arizona Public Service Company, Magma Copper Company, Farmers Investment Company, Cyprus Minerals Company, Apache Powder Company, City of Phoenix, Salt River

Project Agricultural Improvement and Power District and the Salt River Valley Users' Association are granted and denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation & Drainage District and New Magma Irrigation & Drainage District]:

Review is granted and denied to the same extent as the petitions of Arizona Public Service Co., Magma Copper Co., Farmers Investment Co., Roosevelt Water Conservation District and the City of Glendale are granted and denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

WC-90-0005-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. ROOSEVELT WATER CONSERVATION DISTRICT**

ORDRED: Roosevelt Water Conservation District's Petition for Interlocutory Review of Portions of Order of September 9, 1988:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number [sic] 4 & 5; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 5; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioner Church of Jesus Christ of Latter Day Saints]:

Review is granted and denied to the same extent that the petitions of City of Glendale, Roosevelt Water Conservation District, Arizona Public Service Company, Magma Copper Company, Farmers Investment Company, Cyprus Minerals Company, Apache Powder Company, City of Phoenix, Salt River Project Agricultural Improvement and Power District and the Salt River Valley Users' Association are granted and denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation & Drainage District and New Magma Irrigation & Drainage District]:

Review is granted and denied to the same extent as the petitions of Arizona Public Service Co., Magma Copper Co., Farmers Investment Co., Roosevelt Water Conservation District and the City of Glendale are granted and denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

WC-90-0006-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. CITIES OF MESA, TEMPE, CHANDLER, AVONDALE AND CASA GRANDE**

ORDERED: Petition for Interlocutory Review [Petitioner Cities of Mesa, Tempe, Chandler, Avondale & Casa Grande]:

Issue Number 1 = Review is denied;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 6; review is denied in all other respects.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; Review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

WC-90-0007-IR **IN THE MATTER OF THE RIGHTS TO THE USE OF THE GILA RIVER vs. CITY OF GLENDALE**

ORDERED: City of Glendale's Petition for Review by Interlocutory Appeal of the Trial Court's September 9, 1988 Order [Petitioner City of Glendale]:

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 4; review is denied in all other respects;

Issue Number 2 = Review is denied;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioner Church of Jesus Christ of Latter Day Saints]:

Review is granted and denied to the same extent that the petitions of City of Glendale, Roosevelt Water Conservation District, Arizona Public Service Company, Magma Copper Company, Farmers Investment Company, Cyprus Minerals Company, Apache Powder Company, City of Phoenix, Salt River Project Agricultural Improvement and Power District and the Salt River Valley Users' Association are granted and denied.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Central Arizona Irrigation and Drainage District, Maricopa-Stanfield Irrigation & Drainage District and New Magma Irrigation & Drainage District]:

Review is granted and denied to the same extent as the petitions of Arizona Public Service Co., Magma Copper Co., Farmers Investment Co., Roosevelt Water Conservation District and the City of Glendale are granted and denied.

FURTHER ORDERED: Cross-Petition of United States for Interlocutory Review [Cross-Petitioner Department of Justice]:

Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects.

FURTHER ORDERED: Petition for Interlocutory Review [Joinder] [Petitioners Gila Valley Irrigation District and Franklin Irrigation District]:

With respect to the issues in which it expressed "particular interest":

Issue Number 1 = Review is granted to the extent it addresses the Court's Issue Number 2; review is denied in all other respects;

Issue Number 2 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 3 = Review is granted to the extent it addresses the Court's Issue Number 3; review is denied in all other respects;

Issue Number 4 = Review is denied.

DATED this 11th day of December, 1990.

/s/ Stanley G. Feldman
STANLEY G. FELDMAN,
VICE CHIEF JUSTICE

APPENDIX E

IN THE SUPREME COURT OF THE
STATE OF ARIZONA

IN RE THE GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN THE GILA RIVER SYSTEM AND SOURCE	Action No. WC-1, WC-2, WC-3 and WC-4 (consolidated) Maricopa County Superior Court Nos. W-1, W-2, W-3 and W-4 (consolidated) SPECIAL PROCEDURAL ORDER PROVIDING FOR INTERLOCUTORY APPEALS AND CERTIFICATIONS

Pursuant to Article 6, § 5 of the Arizona Constitution, A.R.S. §§ 45-259 and 12-2101, and Rule 19(a)(3) and (f), Arizona Rules of Civil Appellate Procedure, 17B A.R.S., the following procedure is adopted for interlocutory appeals and certifications arising from this general adjudication:

A. Scope

Any party to this general adjudication of water rights under A.R.S. § 45-251 *et seq.* may petition the Supreme Court to review by interlocutory appeal any ruling of the superior court. Also, the trial court may certify to the Supreme Court questions deemed substantial and properly the subject of interlocutory review or appeal under this rule.

B. Grounds

The decision whether to grant or deny a petition for interlocutory review or appeal or certification shall be discretionary. In the exercise of its discretion the Supreme Court may consider, without limitation, the following factors:

1. That the ruling of the superior court is in conflict with a ruling from another adjudication proceeding pursuant to A.R.S. § 45-251 *et seq.*;

2. That the ruling has decided an important question of law that should be decided by the Supreme Court before further proceedings or final judgment in the trial court;

3. That substantial savings of time, expense, or resources may be achieved through early appellate review;

4. That the interests of justice otherwise require early appellate review;

5. Those factors described in Rule 23(c)(4), Ariz.R.Civ.App.P., 17B A.R.S., or Rule 3, Ariz.R.P.Spec.Act., 17B A.R.S.

C. Time for Filing of Petition; Cross-Petition

A petition or certification seeking interlocutory review or appeal of a trial court ruling made prior to the effective date of this order shall be filed within one hundred fifty days after the effective date of this order. A petition or certification seeking interlocutory review or appeal of a trial court ruling made after the effective date

of this order shall be filed within ninety days after the trial court's ruling. For purposes of this rule, the date of the trial court's ruling shall be the date on which the last motion for reconsideration or request for amendment and/or alteration, however denominated, is finally resolved, providing such motion is filed within thirty days after the date the trial court first ruled on the question. A cross-petition for an interlocutory appeal may be filed within thirty days after service of a petition or certification.

D. Form and contents of petition, cross-petition or certification

To the extent possible, the petition, cross-petition or certification seeking interlocutory review or appeal shall comply in form and content with Rule 23(c), Ariz.R.Civ.App.P., 17B A.R.S. In addition, the petition or cross-petition shall contain a concise statement showing why the questions are ripe for interlocutory appeal.

E. Service

The petition, cross-petition or certification shall be served in the same manner as the superior court pleadings in this general adjudication, as follows:

1. A copy of the petition, cross-petition or certification shall be mailed to all parties listed on the trial court's approved mailing list pursuant to Pre-Trial Order No. 1. A copy of the current approved mailing list shall accompany the petition. In addition, a copy of the petition, cross-petition or certification shall be filed in this

general adjudication proceeding. A copy of the petition, cross-petition or certification shall be served on the judge or master who made the ruling in question and on the Arizona Department of Water Resources.

2. The Arizona Department of Water Resources shall promptly serve a copy of the petition, cross-petition or certification on the judge or master and clerk of any other superior court in which a general adjudication is pending, who shall then give appropriate notice of the pendency of such petition to the parties to that adjudication.

F. Response

Within forty-five (45) days after service of a petition, cross-petition or certification, any party to the trial court proceeding may file a response, which shall comply in form and content with section (D) of this order and be served in the same manner as the petition, cross-petition or certification. Parties to other pending general adjudication [sic] desiring to participate in an interlocutory appeal shall file a motion for leave to intervene within forty-five (45) days after service of the petition pursuant to subsection (E)(2).

G. Reply

Any party to the proceeding below may reply to any response within thirty (30) days after service thereof. A reply shall be served in the same manner as a petition.

H. Order on petition; service

1. This court may issue its order on the petition, cross-petition, or certification without oral argument. The order shall grant or deny review by interlocutory appeal and specifically list those questions, if any, granted. An order denying a petition or certification or any part thereof shall not have any precedential value.

2. The order granting or denying interlocutory appeal shall be served by the Clerk of the Supreme Court on the trial judge, the master, the petitioner, the cross-petitioner, if any, and all persons listed on the service list accompanying the petition, and shall be filed of record by the Clerk of the Superior Court.

3. An order granting review by interlocutory appeal shall also schedule a pre-submittal conference not sooner than sixty (60) days after the service of the order, as provided below.

4. The Supreme Court may, on its own motion or on motion of the parties, consolidate one or more petitions, cross-petitions, or certifications from the same or different general adjudication proceedings for any or all purposes.

I. Pre-submittal conference

No later than twenty (20) days prior to the scheduled presubmittal conference, each party desiring to participate in the interlocutory appeal shall file a notice of appearance in the Supreme Court. The trial court shall not be deemed a party to the appeal, nor shall it participate in the appeal in any respect, even if the appeal is

based on its certification. The Supreme Court may designate the parties as appropriate and, in the case of a certification, may align the parties in accord with their true interest in the questions presented. At the presubmittal conference, the Supreme Court shall make orders regarding further briefing and oral argument, if any. It shall also determine what portion of the record will be required to be transmitted, the date of transmittal, the parties to join in the presentation of issues, and other appropriate matters.

J. Standard of review

The standard of review to be applied to any interlocutory appeal under this rule shall be the same standard that would apply had the review been made following a final judgment in the adjudication proceeding.

K. Costs and attorneys' fees

Unless provided by statute, there shall be no application for costs or attorneys' fees made to the Supreme Court in connection with a petition for review by interlocutory appeal or with an interlocutory appeal granted under this rule. However, Rule 25, Ariz.R.Civ.App.P., 17B A.R.S., is fully applicable to pleadings filed pursuant to this order. All other issues of costs and attorneys' fees, if any, shall abide the final resolution of the adjudication.

L. Other procedures

1. Except as otherwise provided herein, the Arizona Rules of Civil Appellate Procedure shall apply to proceedings under this order. Insofar as may be necessary, the provisions of Rule 5, Ariz.R.P.Spec.Act., 17B A.R.S., concerning stays, *ex parte* orders, restraining orders, and injunctions shall also apply.

2. This order is the exclusive remedy for the presentation of interlocutory issues to this court in this adjudication, including those issues that otherwise might be presented pursuant to the Rules of Procedure for Special Actions.

M. Priority

Insofar as possible, matters in this general adjudication shall be determined in preference to other civil matters.

N. Filing date and extension of time periods

All pleadings in any proceeding under this order shall be deemed filed on the day of mailing if deposited in a United States Post Office or mailbox, addressed to the Clerk of the Supreme Court, within the time allowed for filing. The Court, on its own motion, or by motion of a party with good cause shown, may grant extensions of any of the time limits set out in this order.

COMMENTS

Purpose. The purpose of this order is to establish a procedure for early review of all substantial questions in this general adjudication of water rights. Early appellate review may avoid wasteful trial court proceedings, may result in substantial savings of time or expense, or may for other reasons be in the interests of justice. The rule is not intended to be used for interlocutory appeal of individualized matters except where such an appeal might result in a ruling of general application that would advance the adjudication process.

Need. Existing procedure allows interlocutory considerations of trial court rulings in certain limited circumstances. Thus, A.R.S. § 12-2101 describes the appellate jurisdiction of the Arizona Court of Appeals with respect to final judgments and certain interlocutory orders. Rule 54, Ariz.R.Civ.P., 16 A.R.S., provides a certification procedure for making certain judgments final that would not otherwise be appealable. The Rules of Procedure for Special Actions permit discretionary review of interlocutory decisions where the decision is arbitrary, capricious, or an abuse of discretion, or where the trial court may be proceeding without, or in excess of, jurisdiction. None of these procedures, however, provides for discretionary appellate jurisdiction of the Supreme Court other than in these limited circumstances.

A general adjudication of water rights filed pursuant to A.R.S. § 45-251 *et seq.* is a lengthy proceeding that requires investment of vast public and private resources. There is a need to provide for discretionary appellate review of interlocutory decisions of the trial court in this

proceeding to avoid the waste that might otherwise occur if significant interlocutory decisions were only reviewable after final judgment, which might not be entered for several years.

Jurisdiction and authority. Article 6, § 5 of the Arizona Constitution provides that the Supreme Court shall have:

> 3. Appellate jurisdiction in all actions and proceedings except civil and criminal actions originating in courts not of record, unless the action involves the validity of a tax impost, assessment, toll, statute or municipal ordinance.
>
> * * *
>
> 5. Power to make rules relative to all procedural matters in any court.

Rule 19, Arizona Rules of Civil Appellate Procedure, 17B A.R.S., authorizes the Supreme Court to transfer appeals from the Appeals Court on its own motion. The adoption of this special procedural order will effectively transfer all interlocutory appeals under this order to the Supreme Court pursuant to Rule 19(f).

Service. Subsection (D) of the order provides for service of the petition on parties to the adjudication in the same manner as other pleadings are served. In addition, filing the pleading of record in the superior court proceedings will cause the petition to be listed in the clerk's docket summary, which is mailed monthly to subscribers and which is available in the clerk's office for review by any party.

Response/cross-petition. The response provides a party with the opportunity to support the petition or set

forth the reasons why the petitions should not be granted. The response may also seek to narrow the scope of the interlocutory appeal if granted or to reformulate the matter for which interlocutory appeal is sought. The cross-petition may seek to have the court grant an interlocutory appeal of additional related questions if the petition or certification is granted. The cross-petition should make the same showing as required for the petition itself.

Order denying petition. Unless stated to the contrary, an order denying a petition, cross-petition or certification is not intended to indicate that the Supreme Court approves of the trial court's ruling, but only that the Supreme Court has determined that there is an insufficient basis on which to grant review by interlocutory appeal. A subsequent petition, cross-petition or certification seeking interlocutory review or appeal of a ruling for which a previous petition has been denied may be entertained by the court, but only on a showing of a change of circumstances or additional grounds which could not, in the exercise of reasonable diligence, have been known at the time of the previous petition, cross-petition or certification.

Stay. The granting of a petition for an interlocutory appeal shall not stay the proceedings in the superior court unless expressly so ordered by the Supreme Court.

Dated this 26th day of September, 1989.

/s/ Stanley G. Feldman
STANLEY G. FELDMAN,
VICE CHIEF JUSTICE

[Mailing List Omitted]

APPENDIX F

IN THE SUPERIOR COURT OF THE
STATE OF ARIZONA

IN AND FOR THE COUNTY OF MARICOPA

IN THE GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN THE GILA RIVER SYSTEM AND SOURCE	W-1 (Salt) W-2 (Verde) W-3 (Upper Gila) W-4 (San Pedro) ORDER

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Introduction

On May 20, 1988 this Court heard argument on the motion of various city claimants to exclude from the adjudication all wells which are pumping "percolating groundwater" and to include in this adjudication only "surface flow" and "sub surface flow" as defined by *Maricopa County Municipal Water Conservation District No. 1 v. Southwest Cotton*, 39 Ariz. 65, 4 P.2d 369 (1931). That motion, filed November 17, 1987, was the result of many discussions herein relating to the relationship between surface water and ground water and how these different sources of water interface and affect each other. This has been an on-going matter of consequence and it resulted, after request of counsel, in five days of hearings on the general subject. From October 19, to 23, of 1987, the court heard the testimony of a number of leading hydrologists and hydrological engineers, including Leonard Halpenny, Thomas M. Stetson, Catherine Kroeger Rovey, William Gookin and William Guyton, as well as others also well qualified. They testified as to groundwater and surface water relationships. Each filed voluminous reports which were received in evidence. These covered the general relationship of ground and surface water and specifically

its relationship in the San Pedro and Santa Cruz watersheds.

Because the issue covered by that five day hearing and the cities [sic] motion fell within the purview of the issues which the court believed were appropriate for determination under section 10 "Issue Identification and Resolution" of Pre-Trial Order No. 1 dated May 29, 1986, this Court, with counsels [sic] concurrence, decided to use the cities' motion as a vehicle to identify and resolve a number of important and sensitive surface water and ground water issues. The matter was discussed at our 11/20/87 hearing in the following terms.

> A discussion is opened by the Court on the decision which the court must make on the Ground water [sic] and Surface Water "Interrelationship" which was the subject of the October 19th to 23rd, 1987 hearing. The Court then brought up the motion filed by numerous cities to exclude ground water from this adjudication. The Court advises it believes it appropriate to expand the cities' motion to the entire issue of the Ground Water and Surface Water Relationship, including whether or not the "Winters Doctrine" applies to ground water. It is agreed that all parties may submit a list of what issues should be included in the determination to be made, provided that no list shall exceed ten pages. The list shall also be submitted no later than 5:00 p.m. on December 8, 1987.
>
> The Court will take up the scope of issues to be considered at its December 17, 1987 hearing. Upon its determination of the issues to be considered, all parties shall have 60 days to brief the same and 30 days thereafter to respond to

> the others' briefs submitted. D.W.R. is specifically ordered to brief the issues ordered and respond, particularly with regards to the matters of what legal authority this Court has in this jurisdiction to act, in what ways different decisions would impact D.W.R.'s ability to provide accurate and correct information and effects upon administration of any decree arrived upon, as well as what other issues D.W.R. as this Court's technical and administrative adviser D.W.R. believes must be considered for his adjudicative process to be meaningful. Minute Entry Order 11/20/87, page 4.

On 12/17/87 the court and counsel discussed the submissions filed and the Court advised it would then decide what those issues would be. On 1/19/88 this Court issued the following orders.

> Pursuant to this Court's order at its November 20, 1987 hearing and the hearing on December 17, 1987, this Court has received the filed lists of issues which a number of parties submitted which they believe should be included in the question of the Ground Water and Surface Water relationship, all as raised by the Motion for Summary Judgment filed by a number of cities to exclude ground water from this adjudication. The Court has also considered the comments made by counsel at our hearing on December 17, 1987. As the Court said then, it has found in many of the lists submitted similar issues raised and in some there was submitted question [sic] of such complexity that a substantial factual hearing would be needed to provide a data base from which to start answering such questions. Such submitted issues have been discarded.

However, after attempting to distill all submissions to issues which can be decided as matters of law and after considering the evidence taken at our hearing on the issue from October 19 to the 23rd, 1987, the Court finds that in addition to the issues raised in the cities' motion, the Court will consider the following issues which it believes are related to the ground water relationship issues of this case.

1. Is ground water included within the phrase "river system and source" as it is used in A.R.S. §§ 45-141 and 45-251(B), and if so, to what extent is it included?

2. Is ground water included within the phrase "water subject to claims based on federal law" as it is used in A.R.S. § 45-251?

3. Assuming that percolating ground water is not included in the definitions of A.R.S. § 45-141 and 45-251(B), does a McCarran Amendment Adjudication require that percolating ground water be included and if so, how can this be done under Arizona law?

4. If the answer to Issue No. 3 is in the affirmative, does the adjudication have to include only claims under federal law or must state law claims as to percolating ground water also have to be included?

5. If the answer to Issue No. 3 is in the affirmative, does the adjudicatory process extend to a determination of rights to percolating ground water which is normally in this state subject to a "reasonable use" standard to the same extent as it does to surface water which normally is subject to "prior appropriation" standard?

6. Does the "Winters" Doctrine of Federal Reserved Rights apply to percolating ground water under and/or outside of a federal reservation, how does it apply and does it apply only to the reduction of surface water resources and/or ground water resources beneath the federal reservation?

7. If percolating ground water in the watershed of the Gila River System is subject to the jurisdiction of this adjudication, what is the affect of the Ground Water Management Act of 1980?

8. Are there technical and/or procedural problems in determining, prioritizing and/or apportioning ground water rights which present problems of such magnitude in the reliability of the data for such a determination that an attempt to prioritize ground water could violate due process requirements? Minute Entry Order dated 1/19/88.

Between 1/29/88 and 5/20/88 this Court received several hundred pages of briefs from many claimants consisting of responses to the cities' 41 page motion, replies to those responses, and finally a reply of the cities to all those responses and replies. In the meantime the Court did have the benefit of a very substantial soon to be published law review article by Professor of Law John D. Leshy of Arizona State University entitled "Arizona Law Where Ground and Surface Water Meet."

It is the issues above delineated and the issues of the cities' motion which were briefed, argued and which this court will attempt to deal with in this order.

Is the Process of Issue Identification and Resolution Followed Here and Throughout This Case Appropriate

As is readily apparent from a reading of the prior section of this order the process being followed here of early issue identification and resolution is neither a traditional nor ordinary method of resolution of legal issues in litigation. This fact has been brought to the court's attention on several occasions by claimants who suggest such issue resolution should await the evidentiary hearings in each watershed. They argue only after all facts are known should such decisions be made. Unfortunately, this adjudication is not traditional litigation or even a traditional complex litigation of multiple parties. Even in that type of case, with many parties, there are generally two, three, four or five sides and the parties line up behind one or another of the sides. In this case there are thousands of claimants, all of whose claims relate to and opposes [sic] all other claims. There is a finite amount of water available. Each claimant's right takes from the possible rights, amount and/or priority of every other claimant. While it is apparent that many of the claimants are in alliance on certain issues, in fact each claimant is adverse to every other claimant no matter whether their property lies in the upper reaches of the Salt or the lower reaches of the Gila.

Making this even more complicated is the fact that the adjudication process of A.R.S. §§ 45-251 to 45-260 provides each claimant shall file a complicated Statement of Claimant and there after [sic] the Department of Water Resources (D.W.R.) shall issue a certain Hydrographic Survey Report (H.S.R.) for each watershed. These reports are the foundational basis from which the master will

determine his report of the rights and priority of the various claimants. Each claimant has a right to object to those reports, and an opportunity to present evidence to support his individual claim, (see A.R.S. §§ 45-254, 256 and 257) but D.W.R.'s H.S.R. is still the foundation of the process. Finally this process has been approved by the Arizona Supreme Court in *U.S. v. Superior Court*, 144 Ariz. 265, 697 P.2d 658 (1985).

For the Department of Water Resources, this has been a long, on-going, expensive and labor intensive process. It requires a high degree of cooperation and advice from the Court as to what it should investigate, how it should report, and what it is that it should be dealing with. The budget for this process exceeds a million dollars per year and it is essential that if this money is to be wisely spent and not wasted, many of these issues need to be resolved before the report is made. In many instances DWR needs instruction as to how they should investigate and report. Often D.W.R.'s questions are the very ones considered in this issue identification and resolution process. If this is not done first, D.W.R. and its personnel will waste money, manpower and effort on matters which will be meaningless, issues will have to be restudied, but most of all the process significantly delayed because the report focused on the wrong issues, facts or rights.

Delay may be of benefit to some claimants, particularly those who already have and are using the water. For those who claim "reserved rights" and do not presently have actual use of the water, unnecessary delay is an unconscionable additional burden.

It is evident this adjudication will be a long process, but it need not be made longer simply to satisfy the ordinary and traditional method of "one on one" litigation. This case is very unique. A.R.S. §§ 45-251 et. [sic] seq. Our Supreme Court recognized this is in *U.S. v. Superior Court, supra.* It also recognized its uniqueness in its latest order of March 3, 1988 which says:

> Further construing the terms of Rule 53(a), the Court does not believe it necessary that every factual issue in this case be decided in a traditional courtroom proceeding. Much of the factual evidence in this case may well be gleaned from documents, historical records, archaeological data and the like. The parameters of the trial judge's evidentiary discretion in this case are considerable.

Finally the court points out that what it has done here is consistent with the process outlined in its Pre-Trial Order #1, article 10.

For all of those reasons this Court overrules any objections to the process being followed.

Is the Jurisdiction of this Case Determined by the McCarran Amendment or by Arizona Statutes

An appropriate place to start the discussion of the issues here involved is whether the jurisdiction of this case is determined by the McCarran Amendment, 43 U.S.C. [sic] 666, or by Arizona statutes A.R.S. §§ 45-141 and 45-251(B). To a large extent this issue is a microcosm of the larger issue to be determined here. On one hand

the federal claimants and Indian tribes claim the adjudication must include all water, surface and ground, which is hydrologically connected, no matter how slight the connection to meet some test of "Comprehensiveness" which they claim a "McCarran Act" adjudication requires. On the other hand, many if not all of the state right claimants want the adjudication limited to surface water appropriable under A.R.S. § 45-141 (surface and sub surface flow) and "water rights subject to claim based on federal law" under A.R.S. § 45-251, which they define as reserved rights derived from *Winters v. United States*, 207 U.S. 564, 28 S. Ct [sic] 207, 52 L. Ed. 340 (1908). The extent of this conflict is probably best illustrated by the claim of the United States that this Court must prioritize and apportion all ground water rights in the state, whether related to a federal reserved water right or not. This they claim in spite of the long held Arizona rule that ground water is not "appropriable" and such "appropriability" sets the limits of this adjudication's jurisdiction as to state right claimants under A.R.S. § 45-141.

Fortunately for this case, the argument has no merit.

1. The McCarran act [sic] is an act of procedural context which waives the sovereign immunity of the United States, its agencies and those Indian tribes which are subject to trust status.

2. The McCarran Act does not confer or define the jurisdiction of the adjudicating court and confers no substantive rights on the adjudicating court or change the water law of the state in which the adjudication occurs.

3. Each state can define its own process for the adjudication as long as it meets the McCarran Act

guidelines. If that process meets those guidelines then the waiver of sovereign immunity applies.

4. The jurisdiction of this court for this adjudication is provided by A.R.S. §§ 45-141 and 45-251. It consists of that "river system and source" which is appropriable under A.R.S. § 45-141 and "all water subject to claims based upon federal law." A.R.S. § 45-251.4.

It is clear that percolating ground water in this state is not subject to appropriation. *M.C.M.W.D. No. 1 v. S. W. Cotton,* supra and *Bristor v. Cheatham,* 75 Ariz. 227, 255 P.2d 173 (1953). There is not a "comprehensiveness" requirement in the McCarran Act that makes it otherwise. Not one of the cases cited by the United States in its memoranda for that "proposition" supports their theory. Most clearly conflict with it. Those cases are *Dugan v. Rank,* 372 U.S. 609, 83 S.Ct. 999, 10 L.Ed2d [sic] 15 (1963); *United States v. District Court,* 401 U.S. 520, 91 S.Ct. 998, 28 L.Ed.2d 278 (1971); *Colorado River Water Conservation District v. United States* 424 U.S. 800, 96 S.Ct. 1236, 47 L.Ed.2d 483 (1976); *California v. United States,* 438 U.S. 645, 98 S.Ct. 2985, 97 L.Ed.2d 1018 (1978); *United States v. Bluewater Toltec Irrigation District,* 580 F. Supp [sic] 1434, 1446 (1984); and *Matter of Determination of Conflicting Rights,* 484 F. Supp [sic] 778, 783, 784 (D.Ariz. 1980). Each one of these cases flies in the face of the comprehensiveness theory that the United States suggests. In each one of them there was a significant degree of non-comprehensiveness. There is not a single case which supports the comprehensiveness theory the United States claim [sic]. This theory is an unwarranted extension of an attempt to foster federal claims. Even in a recent case cited by the United States for its position, *Idaho ex rel Higginson v.*

Unites [sic] *States*, No. 39576 (Idaho District Ct., Twin Falls County, Oct. 14, 1987) the Department of Justice argued exactly the opposite. This was in the Snake River adjudication. While it is true Judge Hurlbutt ruled to include state groundwater users in the adjudication, it was because his statute, Idaho Code § 42-1406(A) (Supp 1987) specifically made "all users of surface and ground water" on the Snake river [sic] system subject to the adjudication. A.R.S. §§ 45-141 and 253 are to the contrary. They retain Arizona's long held concept that it is only appropriable water (surface and subsurface flow) which is subject to the adjudication where the right claimed is under state rights.

Based on all of the above this court finds its jurisdiction is limited by and defined by A.R.S. §§ 45-141 and 45-251 and is neither enlarged by or restricted by 43 U.S.C. [sic] 666.

Agreements by Counsel as to What Should Be Included Which May Not be Clearly Within Parameters of A.R.S. §§ 45-141 and 45-251

The cities' motion of 11/17/87 started out claiming that all wells pumping "percolating ground water" should be excluded from the case. However, by the time of the argument on 5/20/87 every one [sic] through the evolutionary process of briefing and argument had come to agree with the position of Thomas M. Stetson who on 10/20/87 in describing a similar adjudication in the San Gabriel River Watershed of California recommended that all wells be included and cataloged at least for location, date of drilling, first use, historical data, and amount of

water even if the jurisdictional limits of the case did not require a determination of their priority and entitlement. Inclusion in the judgment of the data base of all the wells for those purposes appears to be commonly agreed upon and accepted by many who argued on 5/20/88. It was opposed by none. The Department of Water Resources will be so ordered to include the same in its reports and they will be so recognized in any judgment arrived at, even if their source does not fall in the area of water which is appropriable or subject to federal claims.

Secondly, the proponent of the cities' motion and several other counsel agreed in argument that because of the cases *M.C.W.C.D No. 1 v. Southwest Cotton,* supra and *Pima Farms v. Proctor,* 30 Ariz. 96, 245 P. 369 (1926), the court must include in appropriable water not only the surface flow of a stream but also the sub-surface flow which supports and is connected to the surface flow. This is so even though the *Southwest Cotton* case defines this sub-flow in a more limited fashion than the *Pima Farms* case, using the following terms.

> The best test which can be applied to determine whether underground waters are as a matter of fact and law part of the surface stream is that there cannot be any abstracting of the water of the underflow without abstracting, a corresponding amount from the surface stream,
>
> * * *
>
> Does drawing of the subsurface water tend to diminish appreciably and directly the flow of the surface stream?
>
> (39 Ariz. at 96 and 97)

Still, where to factually draw the line on the ground remains a significant problem. The point most counsel accept, though some go further, is the suggestion of hydrologist Leonard Halpenny, that at least those wells which withdraw water from the "younger alluvium" of the tributary streams' basin should be presumed to be pumping sub-flow. The Court will accept that and will instruct D.W.R. in its reports to investigate such and treat such wells as pumping appropriable stream flow provided that the investigation shows:

1. As to wells located in or close to that younger alluvium, the volume of stream depletion would reach 50% or more of the total volume pumped during one growing season for agricultural wells or during a typical cycle of pumpage for industrial, municipal, mining, or other uses, assuming in all instances and for all types of use that the period of withdrawal is equivalent to 90 days of continuous pumping for purposes of technical calculation.

2. A well is designated on state records as an in lieu well [sic]

3. A well is designated by state certification as pumping surface flow, such as the wells for Pima Farms.

While it may appear the above instructions are somewhat arbitrary, they are basically for use in instructing D.W.R. in the preparation of its H.S.R. It certainly shall not preclude any owner of such a well, at the time of the evidentiary hearing, from coming in and showing that the well is not pumping sub-flow, regardless of the location of the source of that well.

The Limits of Jurisdiction as to the Adjudication of Those Claims of Water Rights Under State Law

By this point, it should be obvious that the limits of jurisdiction of this adjudication are the limits of the two types of claims to be included. These are the claims of those being made under a state right appropriation and under reserved rights which are derived because the land is federally owned or federally intrusted. In this section of the order the Court will discuss the state right appropriations.

Under A.R.S. § 45-252 any water user of a river system or source may petition for an adjudication of "the nature, extent and relative priority of the water rights of all persons in the river system and source." It is the definition of what the "river system and source" is which sets the limits or jurisdiction of this adjudication. In A.R.S. § 45-251.4 the first category is "all water appropriable under § 45-141." A.R.S. § 45-141.A reads as follows.

> A. The water of all sources flowing in streams [sic] canyons, ravines or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to appropriation and beneficial use as provided in this chapter.

Therefore, the first and largest category of sources of water supply subject to this adjudication, and necessarily the largest is the segment of the water supply already appropriated and in use, surface flow. This includes by way of illustration the surface flow of the Salt, Verde, Gila, Agua Fria, Black, and other rivers or streams.

Second, we have the sub-flows of these rivers as such sub flow [sic] is defined by the *Southwest Cotton* case and those which follow it. No matter what one may suggest about the present day technical accuracy of Justice Lockwood's 1931 decision in *Southwest Cotton*, it has been the law in this state for more than 50 years and accurately reflects what the law was for the fifty years prior to its decision.

Having decided that under claims based on state law this court has jurisdiction only to determine the "nature, extent, and relative priority" of surface and sub surface flow, the Court believes it should also define what it may not consider under state law, because later on it must consider whether that rule remains the same for claims under federal law.

As of the Gadsen [sic] Purchase in 1853, water rights in this state were as set forth on page 75 of 39 Ariz. Reports in the [sic] *Southwest Cotton*. By case and statute, Arizona long ago decided that only surface water and stream flow are appropriable. As to percolating groundwater, there was no right of appropriation. Since territorial days, Arizona law has been that a user of percolating ground water had a right to remove such water anytime for any reasonable use as long as it was put to that use on the land from which it was withdrawn. This was permissible without reference to its effect on his neighbor's static water level, effect on his neighbor's ability to withdraw groundwater from his well or it's [sic] effect on his neighbor's upstream or downstream surface flow level, *Bristor v. Cheatham, supra, England v. Ally Ong Hing*, 8 Ariz. App. 374, 446 P.2d 480, [sic] (1968) 8 Ariz. App. 558, 448 P.2d 128 (1969); *Bull v. Siegrist*, 169 Or. 180, 126 P.2d 832 (1942); *Jarvis v. State Land Department*, 104

Ariz. 527, 456 6 [sic] P.2d 385 (1969); 106 Ariz [sic] 506, 479 P.2d 169 (1970); 113 Ariz [sic] 230, 550 P.2d 227 (1976); *Farmers Investment Co. v. Bettwey*, 113 Ariz [sic] 520, 558 P.2d 14 (1976). Except for the provisions of the Groundwater Management Act, A.R.S. §§ 45-401 through 45-655, that is still the law in this state today.

A *caveat* needs to be inserted here, for the Groundwater Management Act has created significant changes in the right to withdraw and use such groundwater in those areas designated by the law as Active Management Areas (A.M.A.s) and Irrigation Nonexpansion Areas (I.N.A.s). Those changes need not be gone into here except to state that in those areas the right to basically withdraw and use percolating groundwater has gone from what could formerly be annalogized [sic] to a limited form of "riparian" right to a much more restricted "appropriative" right. Finally it should be noted that the enactment of that act also has the effect to cause our Supreme Court to recognize in *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 638 P.2d 1324 (1981), appeal dismissed 457, [sic] U.S. 1101 (1982), rehearing denied 459 U.S. 899 (1982), that the owner of the overlying surface had no *right* to withdraw the water beneath his lands for reasonable use until that right came into being by the actual withdrawal and then, and only then, that right was only for the limited purpose of using the water.

> We therefore hold that there is no right of ownership of groundwater in Arizona prior to its capture and withdrawal from the common supply and that right of the owner of the overlying land is simply to the usufruct of the water.
>
> (131 Ariz. at 82)

Further the Arizona Supreme Court recognized that the right to make such a withdrawal was subject to legislative control, to wit: the Groundwater Management Act. See also *Cherry v. Steiner*, 543 F.Supp. 1270 (D. A. 1982).

Having said all of the above, a further *caveat* needs be inserted as it will lead to the next section of this order, to wit: a discussion of claims based on federal law or federal reserved water rights. Arizona by its statutes, constitution and case law from 1865 on, had an ability to affect only those water rights derived under Arizona law. It could not by enactments such as the Groundwater Management Act or its long line of decisions on the subject or otherwise affect the reserved water rights to surface water or groundwater of federally owned or federally entrusted lands such as Indian reservations.

Claims under [sic] Federal Law or What Reserved Rights Do Federal Lands or Federal Entrusted Land Have When There Has Been, as of this Date, No Physical Appropriation or Use

There are basically three different kinds of federal lands involved in this case. *First*, there is federally owned land as to which there is no federal statutory purpose or dedication to its use. As to such non-dedicated land, it has no greater rights to water use than any other neighboring private or state owned lands. There is no federal reserved right which attaches. There really is no issue in this case as to these lands.

Second, there are those federal lands which have a dedicated statutory purpose, such as national forests, parks, monuments, air fields, military establishments, etc.

All of these have federal reserved rights, whether in actual use or not, whose priority goes back to the date of the statutory enactment of the properties [sic] purpose. *United States v. New Mexico*, 438 U.S. 696, 98 S.Ct. 3012, 57 L.Ed2d. [sic] 1052 (1978).

Third, there are the federally entrusted lands, basically Indian reservations which also have federal reserved rights, whether in actual use or not, whose priority goes back to the date of the establishment of the reservation either by treaty, statutory enactment, or executive order.

While the above is a minimum picture of the rights involved, it is significantly more complicated and to a large extent somewhat undecided by the federal courts whose decisions bear on the subject. In the most recent decision on point, *In re Water of Hallet Creek Stream System*, 749 P.2d 324 (Cal. 1988) the Supreme Court of California indicated all federal lands start off with exactly the same rights to water as their neighboring private lands, plus they have such additional federal rights as accrue to that land by reason of its dedicated federal purpose. Their reserved water right is determined by federal case law or federal statute, except where that statute or case law chooses to apply the law of the state where the land is located.

Under the case of *United States v. New Mexico, supra*, all dedicated federal land has reserved to it that minimum amount of water which is necessary to effectuate the primary purpose of the land set aside. As to all secondary purposes there is no reserved right to water

and the United States can acquire water for that secondary purpose only in the same manner as any other user in the state.

The rule is a little different for entrusted lands, Indian reservations. Starting with the case of *Winters v. United States*, supra in 1908 and continuing through *Arizona v. California*, 373 U.S. 546, 83 S.Ct. 1468, 10 L.Ed.2d 542 (1963) and *Arizona v. California*, 460 U.S. 605, 103 S.Ct. 1382 [sic] 75 L.Ed.2d 318 (1983) the federal courts have continually held that each Indian reservation has reserved to it such water as is necessary to effectuate the purpose of that reservation. While as to other types of federal lands courts have allowed controversy about what the purpose of the land is and how much water will satisfy that purpose, as to Indian reservations the courts have drawn a clear and distinct line. It is that the amount is measured by the amount of water necessary to irrigate all of the *practicably irrigable acreage* (P.I.A.) on that reservation. In the opinion of this Court, the United States Supreme Court has drawn such a clear and distinct line for Indian reservations for fear that in cases such as this, they could be drawn into a potential racial controversy where some water user claims the reservations [sic] purpose was that of a "prisoner of war" camp where the "cavalry" intended to secure "wild marauders" from the surrounding "peaceful settlers", and how much water does a P.O.W. camp need?

In every decided case which has dealt with the subject, the amount of available water on or near the reservation was close to or enough to satisfy all the needs of the reservation and surrounding lands. That is not true in our desert environment.

While there is no case saying so, rationality must require another limiting factor in cases such as ours. With regard to federal reserved right claimants, including Indian reservations in limited water or desert environments, there must be the limiting factor of the amount of water from all sources available on or near the reservation on or about the date of the dedication of the land's purpose. The water to satisfy the federal purpose or practicably irrigable acreage cannot exceed that amount.

A major issue of nearly every brief filed for this hearing and the cities' motion, with the exception of the federal and Indian claimants, was the argument that if there was a federal reserved right to water, that right was limited only to "surface water". The claim is that there is no federal reserved right to ground water. In support of this proposition, every claimant except the federal and Indian claimants cite *Cappaert v. United States*, 426 U.S. 128, 96 S.Ct. 2062, 48 L.Ed.2d 523 (1978)[.] On the other side, every federal and Indian claimant cites the prior Ninth Circuit decision holding that there is a reserved right to ground water. While that decision was vacated, its result was affirmed. See 508 Fed [sic] 313 (1974). Interestingly, on this issue the Supreme Court decision has some very note worthy [sic] things to say.

> The implied-reservation-of-water-rights-doctrine, however, reserves only that amount of water necessary to fulfill the purpose of the reservation, no more.
>
> * * *
>
> No cases of this court have applied the doctrine of implied reservation of water rights to groundwater. Nevada argues that the implied

> reservation doctrine is limited to surface water. Here, however, the water in the pool is surface water. The federal water rights were being depleted because, as the evidence showed, the "[g]roundwater and surface water are physically interrelated as integral parts of the hydrologic cycle."
>
> * * *
>
> Thus, since the implied-reservation-of-water-rights doctrine is based on the necessity of water for the purpose of the federal reservation, we hold that the United States can protect its water from subsequent diversion, whether the diversion is of surface or groundwater.
>
> (426 U.S. at 141-143)

There are two ways one can interpret this decision, but both lead to the same conclusion. *First*, the implied reservation theory applies only to surface water, but since all surface water is interconnected to sources of groundwater, the right holder can prevent groundwater withdrawals that will decrease the amount of surface water available to fulfill the federally dedicated purpose. If you protect the groundwater pool to preserve the surface water flow, in effect you preserve the groundwater pool beneath the federal land available for withdrawal by federal right holders. *Second*, that the United States Supreme Court doesn't care where the water comes from, as long as sufficient sources remain to fulfill that property's purpose on a priority basis. Both theories work to preclude groundwater diversion which reduces water sources on the reservation, regardless of whether or not the diversion is on or off the reservation. In this Court's opinion, the second theory is more logical, reasonable

and in line with scientific theories of the integrated hydrologic cycle. This Court finds that federal reserved water rights apply to both surface water and groundwater sources on and off the reservation whose diversion affects reservation sources, to the extent that there is not enough water left to satisfy the reservation's purpose, or P.I.A. if the land is an Indian reservation.

Next, moving into an area in which there is no direct case or statutory authority in point, this Court believes that the doctrine enunciated in *United States v. New Mexico*, supra requires that the Court structure any judgment and its enforcement so that the impact of the use of federal reserved rights is minimized upon those whose state rights will be diminished and who had no "fault" in utilizing "water" which will now be used to fulfill Indian and federal reserved rights. In its power to mitigate loss and damages, a court has the power and should structure any judgment so that the actual taking and use of this federal reserved right is done in a manner which will minimize its effect on other users while still providing a source to meet the quantity needed. For example, a court, after taking evidence to provide a basis therefore, could apportion the federal reserved right between surface and groundwater in such a way that the quantity needed is fulfilled but the damage or loss to other users is minimized.

This is allowable because no decision has ever indicated that the source of the water is important, as long as the need is fulfilled. Also in support of this theory, it is worth noting the United States Supreme Court has also often stated that with regard to water law, to the extent

state water law can be followed without the diminishment of those rights which federal law seeks to protect, the federal court should allow state law to remain in effect.

While Arizona courts in *Southwest Cotton, supra,* and later cases have indicated that a surface water user has no right to sue or enjoin an upstream groundwater user whose reasonable use affects the flow of downstream groundwater, those rulings are not binding on the United States in its proprietary or trust capacity as to reserved surface water rights. Federal reserved surface water rights are subject to federal case law. That case law established in *Cappaert v. United States, supra* preserves federal surface water availability within such time frame as would affect the federal government's ability to carry out the primary purpose given the establishment of the federal reservation.

There is no question and the testimony in [sic] October, 1987 hearing clearly showed that to allow unlimited downstream groundwater pumping, even for a reasonable or beneficial use on the land above where the groundwater source is located, will and has significantly diminished the flow of many of Arizona's perennial and intermittent streams, including the Santa Cruz and the San Pedro Rivers. If this is allowed to continue, this can and will destroy or significantly diminish federal and tribal reserved rights to those streams where they have reserved surface flow rights.

To protect those reserved federal surface flow rights it is essential that downstream pumping which significantly diminishes those rights be located, prioritized and

the amount of diminishment established to provide a basis for later enforcement of whatever priority of reserved federal rights there is. The fact that under Arizona case law, surface flow appropriators have no right to protection against upstream groundwater pumpers does not diminish the right of holders of federal reserved surface water rights from protection against such diminishment under *Cappaert v. United States, supra.* This Court's jurisdiction under our adjudication statues [sic] and the "McCarran" Amendment extend to such rights, as they are rights under "federal law".

In the opinion of this Court, the same rationale applies to the rights of dedicated federal lands where the single or major source to supply water to meet that purpose or fulfill a P.I.A. requirement is groundwater. If that groundwater was available on the date of the establishment of the national forest, park, monument or reservation and it is now not reasonably available because others off the reservation have diminished the reservation's ground water resources by their pumping, there is no basis to apply any other rationale than that found in *Cappaert v. United States, supra.* Again, the court should structure any judgment or order to minimize damages and/or impact on innocent users.

Because each sub-watershed is to an extent different and the downstream location of federal and Indian reserved surface water rights is different as compared to where upstream ground water pumpers are located, it may be necessary to hold factual and evidentiary hearings to establish the parameters of what constitutes a significant diminishment of the water rights within such time frame as would affect the United States [sic] ability

to carry out the primary purpose of the reservation or federally reserved lands.

Conclusion

Based on all of the above the Court must conclude that the cities' motion to exclude all groundwater wells must be denied and it is so ordered. Dealing next with the specific issues of the 1/19/88 order the court answers them as follows.

1. Is groundwater included within the phrase "river system and source" as it is used in A.R.S. § [sic] 45-141 and 45-251(B) and if so. [sic] to what extent is it included?

Answer. Groundwater is included in the appropriable water only when it meets the criteria of "sub-surface flow" as defined above or when the water source is for a claim based on federal law.

2. Is groundwater included within the phrase "water subject to claims based upon federal law "as it is used in A.R.S. § 45-251?

Answer. Yes.

3. Assuming that percolating groundwater is not included in the definitions of A.R.S. §§ 45-141 and 45-251(B), does a McCarran Amendment Adjudication, require that percolating groundwater be included and if so, how can this be done under Arizona law?

Answer. No, the McCarran Amendment doesn't require it, but federal law requires its inclusion where the claim is based on federal reserved rights.

4. If the answer to Issue No. 3 is in the affirmative, does the adjudication have to include only claims under federal law or must state law claims as to percolating groundwater also have to be included?

Answer. No. However cataloging all such percolating groundwater claims will serve a significant purpose and should be done. It is not required.

5. If the answer to Issue No. 3 is in the affirmative, does the adjudicatory process extended to a determination of rights to percolating groundwater which is normally in this state subject to a "reasonable use" standard to the same extent as it does to surface water which normally is subject to "prior appropriation" standard?

Answer. No, where the use of groundwater affects only state rights. Yes, where the use of groundwater affects federal rights.

6. Does the "Winters" Doctrine of Federal Reserved Rights apply to percolating groundwater under and/or outside of a federal reservation, how does it apply and does it apply only to the reduction of surface water resources and/or groundwater resources beneath the federal reservation?

Answer. Yes. See above.

7. If percolating groundwater in the watershed of the Gila River System is subject to the jurisdiction of this adjudication, what is the affect of the Groundwater Management Act of 1980?

Answer. Technically there should be no effect as rights under the Groundwater Management Act are neither appropriative rights under A.R.S. § 45-141 or rights

claimed under federal law. Practically however, rights of groundwater users in A.M.A.s and I.N.A.S [sic] would have to be considered when and if a court decides how to satisfy federal reserved rights and how to apportion the same between surface water and groundwater.

8. Are there technical and/or procedural problems in determining, prioritizing and/or apportioning groundwater rights which present problems of such magnitude in the reliability of the data for such a determination that an attempt to prioritize ground water could violate due process requirements?

Answer. None sufficient to preclude the adjudication.

Having ruled on the legal issues before it from the motion and the eight questions before the court, the Court will now move to the area of its instruction to the Department of Water Resources for its Hydrographic Survey Reports.

First, these reports should include all claims of surface rights and claims where the water being used is subsurface flow under the criteria previously described. These rights are to be cataloged, prioritized and entitlements assigned thereto by indicating the nature, extent and relative priority thereto, all as required by A.R.S. § 45-256. All other groundwater sources, not involving federal claims, shall be cataloged and their data determined as previously indicated.

When dealing with a claim made under federal law, the same procedure should be followed for those claims where the federal claim is for a diversion and use which is in physical use at this time. Where the claim is for a

federal reserved right and there is no present physical use D.W.R. shall also:

a. determine all sources of water reasonably available to meet the claim presently [sic]

b. determine the limits and characteristics of availability on the date as to which priority is established [sic]

c. determine [sic] the entitlement on the basis of a reasonable assessment of the reservations [sic] P.I.A. or, if not an Indian reservation then the property's primary purpose.

d. In determining a prioritization of such claimed federal reserved right, it will be necessary to determine all stream users or diversions of either surface water or groundwater which significantly affect those sources reasonably available on, at or near the federal parcel which would be available to fulfill the determined entitlement.

e. To the extent possible, exclude each domestic and stock water well and irrigation well irrigating no more than 2 acres, where D.W.R. determines that such wells [sic] diversions have so little effect as to be significantly unmeasurable.

Previously, in the third section of this order, this court discussed the federal claim of what comprehensiveness a "McCarran" Act adjudication required and concluded that what the federal claimants argued for was beyond what the law required. However, all case law and legislative history on the "McCarran" amendment indicates a preference for adjudications in state court because they can be more "comprehensive". While federal courts

can and often handle such, most adjudications are in state court because of an ability to be more comprehensive. To that extent, a "McCarran" Act adjudication does require some degree of comprehensiveness. In the opinion of this court, this adjudication under the parameters above outlined will meet that test.

DATED this 9 day of Sept. 1988

/s/ Stanley Z. Goodfarb
Judge

SUPERIOR COURT OF ARIZONA
MARICOPA COUNTY

CC04 33390 — Code
9/9/88 — Date

HON. STANLEY Z. GOODFARB
Judge/Commissioner/Pro Tem

E. Schneider
Deputy

NO. W-1, W-2, W-3, W-4

In Re the General Adjudication
of All Rights to the Water in the
Gila River System and Source

This Court's order with reference to the relationship of surface and groundwater covering the issues argued on May 20, 1988 was approved, settled and signed this date with copies sent to all attorneys on the approved mailing list herein.

The Court has received Motions to Intervene and Orders with reference of Mark J. and Colette Westervelt, Bruno and Jollyn A. Salamone, and Peggy M. Hitchcock. All of these Motions will be taken up at the Court's next meeting on Friday, September 30, 1988 at 1:30 p.m.

Further, the Court advises counsel that a program by the American Water Resources Section has been scheduled for Friday, October 28, 1988 at the Sheraton Pueblo Inn, Tucson, Arizona. The court has been invited to be a speaker thereto. The Court notes from a preliminary program send [sic] to it that a number of attorneys in this case are also scheduled to be speakers at this meeting. Therefore, rather than have our October meeting on Friday, October 28, the Court will schedule a meeting for

1:30 p.m. on Thursday, October 27, 1988 so that any and all counsel who represent the claimants or DWR may attend the Tuscon meeting on the adjudication of water rights.

Pursuant to stipulation, and good cause appearing.

IT IS ORDERED that Jennele M. Morris be allowed to withdraw as counsel of record for the Cities of Mesa, Chandler, Tempe, Goodyear, Casa Grande, Avondale and Prescott, and that James P. Watts, of the law firm of Bill Stephens & Associates, P.C., be substituted as counsel of record for those Cities.

IT IS FURTHER ORDERED that James P. Watts is appointed to the Steering Committee previously established in this proceeding pursuant to Paragraph 10 of Pre-trial Order No. 1, all in accordance with the Order signed by the Court on August 31, 1988.

APPENDIX G

SUPERIOR COURT OF ARIZONA
MARICOPA COUNTY

RC11-33390 — Code
1-19-88 — Date

JUDGE STANLEY Z. GOODFARB
Judge/Commissioner/Pro Tem

E. Jackson
Deputy

NO. W-1, W-2, W-3, W-4

General Adjudication

As indicated at our December 17, 1987 hearing, John S. Schaper indicated an intention to offer his resignation as chairman of this Court's steering committee. This has been done and reluctantly accepted by this Court. A copy of this Court's letter of acceptance and statement of its appreciation for his work dated January 6, 1988 is attached and made a permanent part of the record of this case.

A formal order substituting Norman J. Davis for Alicia F. Tocco as attorney for the St. John's Irrigation District is filed this date.

This Court has had submitted to it a draft of a proposed pretrial discovery order and a proposed identification system which has been prepared by this Court's steering committee. Copies have been submitted to all counsel. The Court will take up the approval or modification of the order at the meeting on Friday, February 26, 1988 at 1:30 p.m. Any comments by counsel regarding the

orders shall be filed by 5:00 p.m. on Wednesday, February 17, 1988.

Pursuant to this Court's order at its November 20, 1987 hearing and the hearing on December 17, 1987, this Court has received the filed lists of issues which a number of parties submitted which they believe should be included in the question of the Ground Water and Surface Water relationship, all as raised by the Motion for Summary Judgment filed by a number of cities to exclude ground water from this adjudication. The Court has also considered the comments made by counsel at our hearing on December 17, 1987. As the Court said then, it has found in many of the lists submitted similar issues raised and in some there was submitted question [sic] of such complexity that a substantial factual hearing would be needed to provide a data base from which to start answering such questions. Such submitted issues have been discarded.

However, after attempting to distill all submissions to issues which can be decided as matters of law and after considering the evidence taken at our hearing on the issue from October 19 to the 23rd, 1987, the Court finds that in addition to the issues raised in the cities' motion, the Court will consider the following issues which it believes are related to the ground water relationship issues of this case.

1. Is ground water included within the phrase "river system and source" as it is used in A.R.S. § 45-141 and 45-251(B), and if so, to what extent is it included?

2. Is ground water included within the phrase "water subject to claims based on federal law" as it is used in A.R.S. § 45-251?

3. Assuming that percolating ground water is not included in the definitions of A.R.S. § [sic] 45-141 and 45-251(B), does a McCarran Amendment Adjudication, [sic] require that percolating ground water be included and if so, how can this be done under Arizona law?

4. If the answer to Issue No. 3 is in the affirmative, does the adjudication have to include only claims under federal law or must state law claims as to percolating ground water also have to be included?

5. If the answer to Issue No. 3 is in the affirmative, does the adjudicatory process extended to a determination of rights to percolating ground water which is normally in this state subject to a "reasonable use" standard to the same extent as it does to surface water which normally is subject to "prior appropriation" standard?

6. Does the "Winters" Doctrine of Federal Reserved Rights apply to percolating ground water under and/or outside of a federal reservation, how does it apply and does it apply only to the reduction of surface water resources and/or ground water resources beneath the federal reservation?

7. If percolating ground water in the watershed of the Gila River System is subject to the jurisdiction of this adjudication, what is the affect of the Ground Water Management Act of 1980?

8. Are there technical and/or procedural problems in determining, prioritizing and/or apportioning ground

water rights which present problems of such magnitude in the reliability of the data for such a determination that an attempt to prioritize ground water could violate due process requirements?

The Court will allow responses to the cities' Motion for Summary Judgment and a discussion of the above issues to be filed within 60 days of the date of this order and replies to these responses to be filed thereafter within 30 days. No parties [sic] response and reply shall exceed 30 pages for both documents but the allocation between the two shall be made by counsel. The Court will hear argument on the issue at its May hearing on May 20, 1988 at 1:30 p.m. While the 27th is the last Friday of the month, the 30th is Memorial Day and some counsel might have contrary plans for that period.

Copies of this order is [sic] mailed to all counsel on the Court's approved mailing list of December 14, 1987 which was attached to December 17, 1987 minutes.

DOCKETED

JAN 26 1988

1062

APPENDIX H

SUPERIOR COURT OF ARIZONA
MARICOPA COUNTY

RC11-33390 (Code) 11-20-87 (Date)

JUDGE STANLEY Z. GOODFARB
Judge or Commissioner

D. Glab
Deputy

NO. W-1, W-2, W-3, W-4

General Adjudication Continued

1:41 p.m. The November meeting begins with the following persons present: Duane Wyles, Riney Salmon, John Weldon, G.R. Carlock, Sheryl Sweaney, Jennele Morris, Joe Sparks, Margaret Vick, Patrick Barry, Joe Clifford, Doug C. Nelson, Alicia F. Tocco, W. Storey, Rory C. Hays, Bill Warskow, Jim Mitchell, John Schaper, Robert Hoffman, Tamara Huddleston, Tim Luke, Clay Dozer, Sandra Lee, Don W. Young, Mary Lu Moore, Dudley Welker, T.J. Harrision, Frederic Beeson, Robin Barnes, B.M. Apker, J.W. Johnson, Carlos Ronstadt, Marilyn Cage, Barbara Goldberg, Jim Callahan, Judith Dworkin, Sharen Meade, William Sullivan, Norman J. Davis, Jeff Tremly, George A. Schade, Jr, Flauviuer Carovetta, Karen Perry and Simpson Cox.

Court reporter, Terry Louis is present.

The Motion to Intervene of Tom and Evelyn Clark and Steven and Sandy Sutherland is discussed and is granted and signed by the Court.

The Motion to Intervene of SunCor Development partners is discussed and granted.

The Motion of B.C. Bass is discussed and granted and the order is signed by the Court.

After a discussion of the available dates, it is agreed that the December meeting will be held on Thursday, December 17, 1987 at 1:30 p.m., as this Court would not be available on Friday, December 18 and many counsel had other commitments on December 21st to the 24th.

The Court raises the issue of the volume of the file which relates to mailing lists. A discussion is held to reduce this volume and unnecessary work as to such lists. The Court agrees that the mailing list prepared by its clerk and attached to the minutes of each monthly meeting shall constitute the official list until changed. A certificate or statement attached to any document filed which states mailing was made to all on the official list shall be sufficient compliance for mailing. A list of all those mailed to will not be necessary. Pretrial Order #1 is amended and modified to allow such.

The Court raises the issue of the appointment of a Master by the Supreme Court and its hearing on the issue on January 7, 1988 at 9:30 a.m. D.W.R. is ordered to file with the Supreme Court its beliefs on the issues needed to be considered in the selection process. The Court also advises that it will make its own beliefs known in whatever manner the Supreme Court desires.

The Court notes it has received a report from the Steering Committee on the issue of "New Uses" of water subject to this jurisdiction, that is uses which became

effective after the closing of the date for Statements of Claim in a particular sub watershed. Any and all parties, including D.W.R., may comment on this report by 5:00 p.m. on December 8, 1987 and the Court will take up the matter at its December hearing.

A discussion is opened by the Court on the decision which the Court must make on the Ground Water and Surface Water "Interrelationship" which was the subject of the October 19th to 23rd, 1987 hearing. The Court then brought up the motion filed by numerous cities to exclude ground water from this adjudication. The Court advises it believes it appropriate to expand the citie's [sic] motion to the entire issue of the Ground Water and Surface Water Relationship, including whether or not the "Winters Doctrine" applies to ground water. It is agreed that all parties may submit a list of what issues should be included in the determination to be made, provided that no list shall exceed ten pages. The list shall also be submitted no later than 5:00 p.m. on December 8, 1987.

The Court will take up the scope of issues to be considered at its December 17, 1987 hearing. Upon its determination of the issues to be considered, all parties shall have 60 days to brief the same and 30 days thereafter to respond to the others briefs submitted. D.W.R. is specifically ordered to brief the issues ordered and respond, particularly with regards to the matters of what legal authority this Court has in this jurisdiction to act, in what ways different decisions would impact D.W.R.'s ability to provide accurate and correct information and affects upon administration of any decree arrived upon,

as well as what other issues D.W.R. as this Court's technical and administrative adviser D.W.R. [sic] believes must be considered for this adjudicative process to be meaningful.

The Court advises that after the above matters are decided, the Court in the future must begin looking at the shape, format and areas of decision which this Court's final decree should contain, so the process of this adjudication can be directed to proceed to achievement of that goal. The Court expresses the opinion that unless the process becomes goal oriented, the process will not expeditiously achieve what this adjudication needs to do.

Finally, the Court takes up the matter of the Third Set of Issues submitted by the Steering Committee and all the comments submitted thereto. All commenting parties are premitted [sic] oral statements. They are taken under advisement, but the Court requests an administrative response by D.W.R. to each comment where appropriate in twenty days and an additional ten days [sic] reply by the commentator thereafter if it desires. The Court will thereafter decide the same.

3:00 p.m. The meeting concludes.

Later: the Court having failed to take up the Motion to Intervene of Boral Concrete Products, it is ordered granting the same and order is signed.

William Sullivan of Martinez & Curtis, P.C. has been left off of the mailing list for a number of months through a clerical error. His name is now replaced on the mailing list.

IT IS ORDERED substituting the law firm of Larson, Soto & Arana as counsel for the City of Nogales in the above matter, all in accordance with the Order signed by the Court November 23, 1987.

APPENDIX I

SUPREME COURT OF ARIZONA

IN RE THE GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN THE GILA RIVER SYSTEM AND SOURCE	Supreme Court Nos. WC-90-0001-IR (Includes WC-90-0001-IR through WC-90-0007-IR (Consolidated) & WC-79-0001 through WC-79-0004) (Consolidated)
	Maricopa County Nos. W-1, W-2, W-3, W-4 (Consolidated)
	ORDER

(Filed Dec. 19, 2000)

The Court has received and considered "ASARCO Incorporated's Motion for Reconsideration of Decision on Issue 2 Following Remand" filed by ASARCO, Inc., and a "Motion for Reconsideration" filed by Arizona Public Service Company and Phelps Dodge Corporation, and the response to the motions for reconsideration requested by the Court to be filed by Salt River Project Agricultural Improvement and Power District and Salt River Valley Water Users' Association. Therefore,

IT IS ORDERED that "ASARCO Incorporated's Motion for Reconsideration of Decision on Issue 2 Following Remand" is DENIED.

IT IS FURTHER ORDERED that the "Motion for Reconsideration" filed by Arizona Public Service Company and Phelps Dodge Corporation is DENIED.

Dated this 19th day of December, 2000.

/s/ Thomas A. Zlaket
THOMAS A. ZLAKET, Chief Justice

Supreme Court, U.S.
FILED
APR 10 2001
OFFICE OF THE CLERK

No. 00-1464

In The

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

THE UNITED STATES, et al.,

Respondents.

**On Petition For Writ Of Certiorari
To The Supreme Court
Of The State Of Arizona**

RESPONSE OF ASARCO INCORPORATED IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

LAUREN J. CASTER
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QUESTION PRESENTED

Did the Supreme Court of Arizona effect a taking of private property without just compensation in violation of the Fifth and Fourteenth Amendments to the Constitution of the United States, by declaring that there is " 'no legally recognized property right in potential, future groundwater use,' " when Arizona statutes and that court's prior decisions establish the existence of such a property right?

PARTIES TO THE PROCEEDINGS

Respondent ASARCO Incorporated ("ASARCO") supplements the Petition for Writ of Certiorari's description of the Parties to the Proceedings to add that it is a claimant in the adjudication below in the Maricopa County Superior Court concerning water rights in the Gila River System and Source. ASARCO filed claims for a variety of water rights in the Gila River Adjudication, including claims to Type 1 and Type 2 grandfathered groundwater rights recognized and defined under Arizona Revised Statutes ("A.R.S.") § 45-463 and § 45-464.[1]

---

[1] ASARCO has lodged examples of its Statements of Claimant for Type 1 and Type 2 grandfathered groundwater rights with the Clerk of the Court, and respectfully asks this Court to take judicial notice of these documents. Lodging of Respondent ASARCO Incorporated, Exhibit A. ASARCO filed these Statements of Claimant with the Arizona Department of Water Resources pursuant to A.R.S. § 45-254. Filing of a statement of claimant is the mechanism by which water users assert water right claims in the Gila River Adjudication. ASARCO's Statements of Claimant constitute records of the Arizona Department of Water Resources, and are matters of record in the case below.

Courts may take judicial notice of the records and reports of administrative bodies. *See, e.g., Massachusetts v. Westcott*, 431 U.S. 322, 323 n.2 (1977); *Barron v. Reich*, 13 F.3d 1370, 1377 (9th Cir. 1994); *cf.* Fed. Rule Evid. 201(b). Moreover, matters of record in the case are a proper subject for judicial notice. *See United States v. Rey*, 811 F.2d 1453, 1457 n.5 (11th Cir.), *cert. denied*, 484 U.S. 830 (1987). Accordingly, this Court may take judicial notice of the ASARCO's Statements of Claimant.

CORPORATE DISCLOSURE

ASARCO, a New Jersey corporation, is a wholly owned subsidiary of Grupo Mexico S.A. de C.V. This disclosure is made pursuant to Rule 29(6), Rules of the Supreme Court of the United States.

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RESPONDENT'S BRIEF IN SUPPORT

ASARCO respectfully responds in support of the Petition for Writ of Certiorari submitted by Phelps Dodge Corporation and Arizona Public Service Company ("Petition"). This response addresses the argument commencing at page 19 of the Petition. While the Petition poses a single "Question Presented" under which all of its arguments are subsumed, ASARCO sets forth a second "Question Presented" that articulates more precisely the issue on which this response focuses.

STATUTES INVOLVED

See Fifth and Fourteenth Amendments, Constitution of the United States; Arizona Revised Statutes § 45-401 *et seq.*

STATEMENT OF THE CASE

ASARCO adopts the Statement of the Case set forth in the Petition.

SUMMARY OF ARGUMENT

ASARCO files this response to address a single statement in Paragraph 47 of the opinion of the Supreme Court of the State of Arizona in *In re General Adjudication of All Rights to Use Water in the Gila River Sys. & Source*, 9 P.3d 1069 (Ariz. 2000) ("Opinion Below"). There the

Arizona Supreme Court declared that "landowners have 'no legally recognized property right in potential, future groundwater use.' " 9 P.3d at 1083. The court made no distinction between the continuation of existing groundwater uses into the future and the commencement of new groundwater uses in the future. In either case, the statement is contrary to Arizona law and a taking of property without just compensation.

Arizona statutes define the right to use groundwater. For those users or potential users coming within the statutes' terms, those rights include the right to continue existing groundwater uses into the future and the right to initiate new groundwater uses in the future. If taken literally, the Arizona Supreme Court's statement would extinguish property rights recognized and vested by statute. This in and of itself is a taking in violation of the Fifth and Fourteenth Amendments.

Moreover, the Opinion Below directly contradicts prior decisions of the Arizona Supreme Court recognizing the existence of a vested property right in future groundwater use. These decisions induced extensive reliance on groundwater by Arizona's municipal water providers, industries and farms over many years. The court cannot simply rule this property out of existence without triggering the just compensation guaranty of the Constitution of the United States.

ARGUMENT

I. Arizona Statutes Recognize That Future Groundwater Use Is A Vested Property Right.

Arizona statutes recognize a vested property right[2] in the potential, future use of groundwater. The Legislature enacted the Groundwater Management Act in 1980 ("Act"). 1980 Ariz. Sess. Laws 4th Spec. Sess., Ch. 1; *see also, Town of Chino Valley v. City of Prescott*, 638 P.2d 1324 (Ariz. 1981) ("*Chino Valley II*"). The Act "may well be the most ambitious legislation ever enacted by the Arizona Legislature and the most comprehensive water code in the United States." *Cortaro Water Users' Ass'n v. Steiner*, 714 P.2d 836, 838 (Ariz. App. 1985), *approved on this ground and rev'd on other grounds*, 714 P.2d 807, 808 (Ariz. 1986) (footnote omitted).

The Act imposes different rules governing the use of groundwater depending upon whether the water is withdrawn from wells within areas designated as active management areas or irrigation non-expansion areas, or from those areas not so designated. The Act most closely regulates the use of groundwater within active management areas. It allows the withdrawal of water from wells equipped with small capacity pumps, subject to certain restrictions. A.R.S. § 45-454. The Act also directs that a

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[2] The Arizona Supreme Court defined a "vested right" as one that "is actually assertable as a legal cause of action or defense or is so substantially relied upon that retroactive divestiture would be manifestly unjust." *San Carlos Apache Tribe v. Superior Court*, 972 P.2d 179, 189 (Ariz. 1999).

person engaged in or proposing to engage in the extraction and processing of minerals "shall be issued" a dewatering permit for the beneficial use of the land for mineral extraction, for metallurgical processing and for compliance with applicable environmental controls, A.R.S. § 45-513(A), and a permit to withdraw groundwater in the required amount if the statutory conditions are satisfied. A.R.S. § 45-514(A).[3] Such a person may recover water from beneath tailings ponds without a permit. A.R.S. § 45-513(B).[4] The director of the Arizona Department of Water Resources "shall issue" a permit to withdraw groundwater for general industrial use under defined circumstances. A.R.S. § 45-515(A). A city, town or private water company "shall have the right to withdraw and transport groundwater within its service area for the benefit of landowners and residents within its service area, and the landowners and residents are entitled to use the groundwater delivered" under the terms specified. A.R.S. § 45-492(A). An Arizona court has recognized that

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[3] These statutes ensure that within active management areas, the right of the mineral estate owner to use that amount of water necessary for the exploitation of minerals would remain intact. This right is an incident of mineral ownership. *Russell v. Texas Co.*, 238 F.2d 636, 644 (9th Cir. 1956), *cert. denied*, 354 U.S. 938 (1957); *Unit Petroleum Co. v. Oklahoma Water Resources Bd.*, 898 P.2d 1275, 1277-78 (Okla. 1995); *Ricks Exploration Co. v. Oklahoma Water Resources Bd.*, 695 P.2d 498, 503-05 & nn.19 & 25 (Okla. 1984); *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 810-11 (Tex. 1972); 4 E. Kuntz, *A Treatise on the Law of Oil and Gas* § 50.2(b) at 275 (1990). This right to water derives from a legal regime outside traditional water law.

[4] A.R.S. § 45-513(B) was added in 1985. *See* 1985 Ariz. Sess. Laws 1st Reg. Sess., Ch. 323, § 7.

this statute created a "right." *Cortaro*, 714 P.2d at 838, 839. None of the entitlements created by these statutes presumes a preexisting use of groundwater.

There can be no serious doubt that if the director of the Arizona Department of Water Resources refused to issue a permit as required by the statutes cited above or contested groundwater use sanctioned by those statutes, the groundwater user could assert the statutes as a basis for a cause of action or defense. Under the standard articulated by the Arizona Supreme Court, these statutes create vested property rights. *See* n. 2 above.

The Act recognized and "grandfathered" groundwater uses existing in an active management area on the date the active management area was created:

> In an active management area, a person who was legally withdrawing and using groundwater as of the date of the designation of the active management area or who owns land legally entitled to be irrigated with groundwater as determined pursuant to this article *has the right to withdraw or receive and use groundwater* as determined by the director pursuant to this article.

A.R.S. § 45-462(A) (emphasis added). The rights associated with these existing uses are classified as Type 1 non-irrigation grandfathered rights associated with retired irrigated land, A.R.S. § 45-463; Type 2 non-irrigation grandfathered rights not associated with retired irrigated land, A.R.S. § 45-464; and irrigation grandfathered rights, A.R.S § 45-465. These grandfathered rights entitle the holder to use groundwater now and in the future. The Type 2 grandfathered groundwater right is especially

flexible because it is not appurtenant to particular land. A.R.S. § 45-464. It can be leased, A.R.S. § 45-464(G), or sold, A.R.S. § 45-474, subject to certain restrictions. There is no statutory provision for abandonment or forfeiture of Type 2 rights, so their future vitality does not depend on their current use. Type 2 rights authorize the use of substantial amounts of groundwater in Arizona's active management areas.[5]

For those parts of the state not designated active management areas or irrigation non-expansion areas, the Groundwater Management Act codified the doctrine of reasonable use, A.R.S. § 45-453, a doctrine previously adopted by the Arizona courts. *See, e.g., Bristor v. Cheatham*, 255 P.2d 173, 178-179 (Ariz. 1953). Section 45-453(1)

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[5] Type 2 grandfathered groundwater rights permit the use of more than 200,000 acre feet of groundwater per year. *See* Second Management Plan (1990-2000) for Phoenix Active Management Area at 169 (100,717 acre feet per year of Type 2 rights); Second Management Plan (1990-2000) for Pinal Active Management Area at 149 (10,998 acre feet per year of Type 2 rights); Second Management Plan (1990-2000) for Tucson Active Management Area at 139 (91,374 acre feet per year of Type 2 rights); and Second Management Plan (1990-2000) for Prescott Active Management Area at 112 (3,935 acre feet per year of Type 2 rights). ASARCO has lodged excerpts of these Management Plans with the Clerk of this Court and respectfully asks this Court to take judicial notice of these documents. Lodging of Respondent ASARCO Incorporated, Exhibit B.

The Arizona Department of Water Resources prepared these Management Plans at the Legislature's direction. A.R.S. § 45-563. As explained in note 1 above, courts may take judicial notice of the records and reports of administrative bodies. Accordingly, this Court may take judicial notice of the Management Plans.

permits the withdrawal and use of groundwater "for reasonable and beneficial use" subject to restrictions on the transportation of groundwater. This authorization is not limited to those who already are using groundwater or who already own a well.

Arizona statutes therefore create vested rights both to continue existing groundwater uses and to commence groundwater uses in the future so long as those uses comply with statutory requirements.

II. The Opinion Below, Taken Literally, Would Revoke Statutory Property Rights and Effect a Taking in Violation of The Fifth and Fourteenth Amendments.

The Fifth Amendment, made applicable to the States through the Fourteenth Amendment, *Chicago, B. & Q.R. Co. v. Chicago*, 166 U.S. 226, 239 (1897), provides that "private property" shall not "be taken for public use, without just compensation." Because the Constitution protects rather than creates property interests, the existence of a property interest is determined by reference to "existing rules or understandings that stem from an independent source such as state law." *Board of Regents of State Colleges v. Roth*, 408 U.S. 564, 577 (1972).

This Court has acknowledged that state courts are subject to the prohibition against uncompensated takings, as is any other branch of state government. *See Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 163-164 (1980) ("Neither the Florida Legislature by statute, nor the Florida courts by judicial decree, may accomplish the result the county seeks simply by recharacterizing the

principal as 'public money' because it is held temporarily by the court."); *Hughes v. Washington*, 389 U.S. 290, 296-297 (1967) (Stewart, J., concurring) (Justice Stewart's concurrence in *Hughes* was later cited with approval in *Bonelli Cattle Co. v. Arizona*, 414 U.S. 313, 331 (1973), *overruled on other grounds, Oregon ex rel. State Land Bd. v. Corvallis Sand & Gravel Co.*, 429 U.S. 363 (1977).).

Other federal courts[6] have overturned state court actions that resulted in property rights being taken without just compensation. In *Washington Legal Foundation v. Legal Foundation of Washington*, 236 F.3d 1097 (9th Cir. 2001), the court found that the interest generated by IOLTA pooled trust accounts was the property of the clients whose money was deposited into trust, and that the state court's appropriation of that interest for public purposes was a taking entitling these clients to just compensation under the Fifth Amendment. 236 F.3d at 1115. In *Robinson v. Ariyoshi*, 441 F. Supp. 559, 585 (D. Haw. 1977), *aff'd in part, vacated in part*, 753 F.2d 1468, 1475 (9th

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[6] In still other instances, federal courts have agreed that a judicial decision can take property without compensation, but have held that there was no taking on the facts presented, or declined to hear the dispute on jurisdictional grounds. *Cherry v. Steiner*, 716 F.2d 687, 692 (9th Cir. 1983) (no unpredictable change in the law), *cert. denied*, 466 U.S. 931 (1984); *Reynolds v. State of Georgia*, 640 F.2d 702, 705 (5th Cir.) (holding no jurisdiction in lower federal courts to review the constitutionality of state decisions), *cert. denied*, 454 U.S. 865 (1981).

Cir. 1985),[7] the district court held that a Hawaii Supreme Court opinion had unconstitutionally deprived property owners of their water rights by radically changing prior Hawaiian water law. Likewise, in *Sotomura v. County of Hawaii*, 460 F. Supp. 473, 482-483 (D. Haw. 1978), a district court held that a decision of the Hawaii Supreme Court had unconstitutionally changed the line dividing private and public beach amounting to a taking of private property.

The Arizona Supreme Court itself declined to alter the rule of law governing a landowner's right to withdraw and use groundwater out of concern for impairment of a vested property right. In *Bristor, supra*, the court stated:

> [D]eparture [from the common law doctrine of reasonable use] is not permitted for the reason that we might think the rule to be fallacious and anomalous. Whether we should for any other reason, after approximately fifty years' operation under an announced rule, depart therefrom depends upon many questions, the most important of which is the protection of property rights acquired upon the faith of this court's announcement of law.

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[7] This Court vacated the judgment in *Robinson* and remanded for further consideration in light of its decision in *Williamson County Regional Planning Comm'n v. Hamilton Bank*, 473 U.S. 172 (1985). On remand, the Court of Appeals held that the constitutional challenge was premature because the plaintiffs had not exhausted their administrative remedies. *See Robinson v. Ariyoshi*, 887 F.2d 215 (9th Cir. 1989).

. . . .

> It is generally so well known that we take judicial notice that, with faith in the foregoing declaration and assurance of this court, many and large investments have been made in the development of ground waters. Under these circumstances the court's announcement of the rule becomes a rule of property, and rights acquired thereunder should not be disturbed "unless the law is such as to leave the court no alternative," [citation omitted]; and when a decision does become a rule of property, the rights acquired thereunder are entitled to protection under the law as declared.

255 P.2d at 175. The court refused to abandon the doctrine of reasonable use as the rule governing groundwater use. *Id.* at 177.

The Arizona court was not alone in recognizing the need to protect vested property rights. The Michigan Supreme Court, in *Bott v. Commission of Natural Resources*, 327 N.W.2d 838 (Mich. 1982), reversed imposition of a new test for determining whether waters were navigable, in part because of the "unfairness of eliminating a property right without compensation." 327 N.W.2d at 849. The *Bott* court acknowledged that past judicial decisions establishing "rules of property" induce extensive reliance. *Id.*

> The justification for this rule is not to be found in rigid fidelity to precedent, but conscience. The judiciary must accept responsibility for its actions. Judicial "rules of property" create value, and the passage of time induces a belief in their stability that generates commitments of human energy and capital.

> The proposed changes in law would not have a purely theoretical effect. . . .

Id.

The Arizona Supreme Court effected a taking of vested rights to groundwater in the Opinion Below. With the sweeping statement challenged here, the court appears to extinguish statutory rights to future groundwater use previously discussed. Courts may interpret a statute or declare it unconstitutional, but the Arizona Supreme Court did neither in making the statement challenged here. It cannot simply rule that valid, statute-based property interests no longer exist.

III. The Opinion Below, Read Literally, Would Effect A Taking Of Vested Rights Recognized In Prior Judicial Decisions.

Arizona courts have long-recognized that the right to future groundwater use is a vested property right. Prior to the adoption of the Groundwater Management Act, the Arizona Supreme Court held that a landowner's right to withdraw and use groundwater is a property right entitled to protection:

> At the outset it must be conceded that the interests which petitioners seek to protect are property rights. We recognized in *Farmers Investment Company v. Bettwy, supra* [558 P.2d 14 (Ariz. 1976)], that the doctrine of reasonable use as judicially determined in Arizona had become a rule of property and was entitled to protection as such.

Town of Chino Valley v. State Land Dept., 580 P.2d 704, 709 (Ariz. 1978) ("*Chino Valley I*").

Similar declarations are found in other Arizona Supreme Court decisions both before and after *Chino Valley I*. *See, e.g., Bristor*, 255 P.2d at 175; *Jarvis v. State Land Dept.*, 479 P.2d 169, 172-73 (Ariz. 1970), *modified on other grounds*, 550 P.2d 227 (Ariz. 1976). In *Jarvis*, the court observed that "[t]he right to exhaust the common supply by transporting water for use off the lands from which they are pumped is a rule of law controlled by the doctrine of reasonable use and protected by the constitution of the state as a right in property." 479 P.2d at 172-73.

The Arizona Supreme Court further acknowledged that having recognized property rights to groundwater use, it must preserve these rights. In *Chino Valley II*, the court quoted from *Bristor* and *Jarvis* and declared:

> The statements in *Bristor* and *Jarvis* do not mean that rights to the use of groundwaters cannot be modified prospectively by the Legislature. They only mean that courts will adhere to an announced rule to protect *rights acquired under it* and that if any change in the law is necessary, it should be made by the Legislature.

638 P.2d at 1327 (emphasis added).

Until the pronouncement challenged in this response, the court below was reticent to change existing law where, as here, "the prospective effect of change threatens important vested rights and may affect every Arizonan's well-being." *In re General Adjudication of All Rights to Use Water in Gila River Sys. & Source*, 857 P.2d

1236, 1243 (Ariz. 1993). It concluded that any modification of the right to withdraw and use groundwater required an exercise of the police power. *Chino Valley II*, 638 P.2d at 1329-30. The police power resides with the legislative branch of Arizona government, not with its courts. *McKinley v. Reilly*, 393 P.2d 268, 270 (Ariz. 1964), *appeal dismissed*, 381 U.S. 276 (1965); *In re Creasy*, 12 P.3d 214, 219 (Ariz. 2000) (Martone, J., concurring).

A court "may change judge-made law" under certain circumstances, *In re General Adjudication of All Rights to Use Water in Gila River Sys. & Source*, 857 P.2d at 1243. By the Arizona Supreme Court's own admission, it may not do so when its own prior holdings have created a "rule of property." *Chino Valley I*, 580 P.2d at 709; *Chino Valley II*, 638 P.2d at 1327-1330.

The court's declaration that there is " 'no legally recognized property right in potential, future groundwater use' " appears to be a sudden and unpredictable change in law established by its own decisions, and is therefore a taking of property rights already existing under state law.

CONCLUSION

Based on the foregoing reasons, the Court should grant the writ.

Respectfully submitted,

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U.S. Const. Amendment V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

U.S. Const. Amendment XIV

Section 1. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Section 2. Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice President of the United States, Representatives in

Congress, the Executive and Judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male inhabitants of such State, being twenty-one years of age, and citizens of the United States, or in any way abridged, except for participation in rebellion, or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State.

Section 3. No person shall be a Senator or Representative in Congress, or elector of President and Vice President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But Congress may by a vote of two-thirds of each House, remove such disability.

Section 4. The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations and claims shall be held illegal and void.

Section 5. The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

Ariz. Rev. Stat. 45-254. Statement of claimant; filing; information to be included; verification; failure to file; fees

A. Each potential claimant who is served shall present in writing the particulars of his claim on the court-approved statement of claimant form and shall file the statement of claimant form with the court within ninety days of the date of service, unless otherwise ordered by the court. The court may extend the time for good cause. A duplicate of each statement of claimant shall be made available by the clerk of the court to the director.

B. The statement of claimant form may be filed by a person on behalf of its members or users and shall constitute the required filing of its members or users.

C. The statements of claimant shall include the following information, where appropriate:

1. The name and mailing address of the potential claimant.

2. The name of the specific river, stream, tributary, wash or other source from which the right to divert or make use of water is claimed.

3. The quantities of water and the periods of time during the year for which use is claimed.

4. If distributing works are used or required, the date of beginning and completion of construction or of enlargements and the dimensions of the ditch as originally constructed and as enlarged.

5. If the use is for irrigation, the amount of land reclaimed the first year and in subsequent years, and the

amount and general location of the land, the character of the soil and the kind of crops cultivated.

6. The legal description of the point or points of diversion and place of use of the waters to the nearest forty-acre tract or by other appropriate description and such map or plat showing the relative points of diversion and place of use as may be required.

7. The purpose and extent of use.

8. The time of the initiation of the right and the date when water was first used for beneficial purposes for the various amounts and times claimed in paragraph 3 of this subsection.

9. The legal basis for the claim.

D. The statement of claimant shall be verified by the claimant or the person authorized to file as provided in subsection B of this section.

E. After the date by which statements of claimant are required to be filed as set forth in the summons or in an order of the court, the filing of a statement of claimant or an amendment is permitted under the following circumstances:

1. At any time up to ninety days before the publication of the director's final report pursuant to section 45-256, subsection B for a subwatershed or federal reservation within the river system and source, a person may file a statement of claimant or an amendment to a statement of claimant with the director without leave of the court.

2. After the expiration of the ninety day period prescribed by paragraph 1 of this subsection and before the

conclusion of hearings by the master for a subwatershed or federal reservation within the river system and source, a person may assert a claim for a water use within the subwatershed or federal reservation without leave of the court by filing the original of the statement of claimant or amended statement of claimant with the director and a notice of filing with the court. After the conclusion of hearings on an existing claim, an amendment to that existing statement of claimant may only be permitted as prescribed by paragraph 3 of this subsection. If a statement of claimant or an amendment to a statement of claimant is filed after the expiration of the ninety day period and except as provided in section 45-258, other parties may object to the elements of the claim or amended claim.

3. After the master has completed hearings on a subwatershed or federal reservation within the river system and source and has filed a report with the court for the entire subwatershed or federal reservation pursuant to section 45-257, a person may not assert a late claim for a water right within that subwatershed or reservation as a matter of right. A person may request the court's permission to intervene in the adjudication and file a statement of claimant with the director. The court may grant the motion if it finds that the intervention would not unduly delay or prejudice the adjudication of the rights of the original parties. An amendment to an existing statement of claimant after the filing of the master's report for the entire subwatershed or federal reservation is permitted only by leave of the court in its discretion and on motion of the party seeking an amendment. Except as provided in section 45-258, other parties may object to the elements

of a claim or an amended claim filed pursuant to this paragraph.

F. On entry of the final decree pursuant to section 45-257, any potential claimant who is properly served and who failed to file a statement of claimant as prescribed by this article for any water right or whose motion for permissive intervention was finally denied by the court is barred and estopped from subsequently asserting any right that was previously acquired on the river system and source and that was not included in a statement of claimant and forfeits any rights to the use of water in the river system and source that were not included in a properly filed statement of claimant.

G. On the effective date of this amendment to this section, all statements of claimant previously filed in an adjudication pending under this article are deemed to be timely filed. An objection to the timeliness of any statement of claimant that was filed before the effective date of this section in an adjudication pending under this article is not permitted.

H. The fee for filing a statement of claimant by an individual is twenty dollars and by a corporation, municipal corporation, the state or any political subdivision, an association or partnership is two cents for every acre-foot of water claimed, or twenty dollars, whichever is greater. The director shall review the statements of claimant and the amount of fees paid as to each and report to the court or master the sufficiency of the fees paid with respect to each statement of claimant. A claim shall not be considered by the court or the master unless all fees with respect to such claim have been fully paid in accordance

with the provisions of this article. Fees shall not be imposed upon any Indian tribe, community or allottee personally appearing in the general adjudication to assert claims to water.

Ariz. Rev. Stat. 45-453. Groundwater rights and uses in areas outside active management areas; amounts; transportation; irrigation non-expansion areas

In areas outside of active management areas, a person may:

1. Withdraw and use groundwater for reasonable and beneficial use, except as provided in article 8.1 of this chapter.

2. Transport groundwater pursuant to articles 8 and 8.1 of this chapter.

3. Use groundwater for irrigation purposes within the exterior boundaries of an irrigation non-expansion area only pursuant to article 3 of this chapter.

Ariz. Rev. Stat. 45-454. Exemption of small non-irrigation wells; definitions

A. Withdrawals of groundwater for non-irrigation uses from wells having a pump with a maximum capacity of not more than thirty-five gallons per minute which were drilled before April 28, 1983 or which were drilled after April 28, 1983 pursuant to a notice of intention to drill

which was on file with the department on such date are exempt from the provisions of this chapter, except that:

1. Wells drilled before June 12, 1980 which are not abandoned or capped or wells which were not completed on June 12, 1980 but for which a notice of intention to drill was on file with the Arizona water commission on such date are subject to subsections F, G and H of this section and must be registered pursuant to section 45-593. If two or more wells in an active management area are exempt under this paragraph and are used to serve the same non-irrigation use at the same location, the aggregate quantity of groundwater withdrawn from the wells shall not exceed fifty-six acre-feet per year.

2. Wells drilled between June 12, 1980 and April 28, 1983, except as provided in paragraph 1 of this subsection, and wells drilled after April 28, 1983 pursuant to a notice of intention to drill which was on file with the department on April 28, 1983 are subject to subsections C, E, F and G of this section.

B. Withdrawals of groundwater for non-irrigation uses from wells having a pump with a maximum capacity of not more than thirty-five gallons per minute drilled on or after April 28, 1983, except wells drilled after April 28, 1983 pursuant to a notice of intention to drill which was on file with the department on such date, are exempt from the provisions of this chapter, except that:

1. Such wells are subject to subsections C through G of this section.

2. In an active management area, other than a subsequent active management area designated for a portion of

a groundwater basin in the regional aquifer systems of northern Arizona, withdrawals of groundwater from such wells for non-irrigation uses other than domestic purposes and stock watering shall not exceed ten acre-feet per year.

3. In a subsequent active management area that is designated for a portion of a groundwater basin in the regional aquifer systems of northern Arizona, groundwater withdrawn from such wells may be used only for domestic purposes and stock watering.

C. A person shall file a notice of intention to drill with the director pursuant to section 45-596 before drilling an exempt well or causing an exempt well to be drilled.

D. The registered well owner shall file a completion report pursuant to section 45-600, subsection B.

E. In an active management area only one exempt well may be drilled or used to serve the same non-irrigation use at the same location, except that a person may drill or use a second exempt well to serve the same non-irrigation use at the same location if the director determines that all of the following apply:

1. Because of its location, the first exempt well is not capable of consistently producing more than three gallons per minute of groundwater when equipped with a pump with a maximum capacity of thirty-five gallons per minute.

2. The second exempt well is located on the same parcel of land as the first exempt well, the parcel of land is at least one acre in size, all groundwater withdrawn from

both exempt wells is used on that parcel of land and there are no other exempt wells on that parcel of land.

3. Combined withdrawals from both wells do not exceed five acre-feet per year.

4. If the second exempt well is drilled after January 1, 2000, the county health authority for the county in which the well is located or any other local health authority that controls the installation of septic tanks or sewer systems in the county has approved the location of the well in writing after physically inspecting the well site.

5. Use of two wells for the same non-irrigation use at the same location is not contrary to the health and welfare of the public.

F. An exempt well is subject to sections 45-594 and 45-595.

G. Groundwater withdrawn from an exempt well may be transported only pursuant to the provisions of articles 8 and 8.1 of this chapter.

H. A person who owns land from which exempt withdrawals were being made as of the date of the designation of the active management area is not eligible for a certificate of grandfathered right for a type 2 non-irrigation use for such withdrawals.

I. In this section:

1. "Domestic purposes" means uses related to the supply, service and activities of households and private residences and includes the application of water to less than two acres of land to produce plants or parts of plants for

sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in section 3-1201.

2. "Stock watering" means the watering of livestock, range livestock or poultry, as such terms are defined in section 3-1201.

Ariz. Rev. Stat. 45-462. Grandfathered groundwater rights; persons included; certificate of exemption amount is legal use

A. In an active management area, a person who was legally withdrawing and using groundwater as of the date of the designation of the active management area or who owns land legally entitled to be irrigated with groundwater as determined pursuant to this article has the right to withdraw or receive and use groundwater as determined by the director pursuant to this article.

B. For purposes of determining grandfathered rights pursuant to this article, a groundwater use shall not be determined to be illegal merely because the groundwater legally withdrawn is or has been transported.

C. The amount of groundwater use described by an application for a certificate of exemption is recognized as a legal use for purposes of determining grandfathered rights pursuant to section 45-464, subject to any modification as a result of a finding on appeal of a factual mistake by the state land department or Arizona water commission in computing the amount of the authorized withdrawal.

D. The right to withdraw or receive and use groundwater pursuant to this article is a grandfathered right. There are three categories of grandfathered rights as follows:

1. Non-irrigation grandfathered rights associated with retired irrigated land as determined pursuant to sections 45-463, 45-469 and 45-472.

2. Non-irrigation grandfathered rights not associated with retired irrigated land as determined pursuant to section 45-464.

3. Irrigation grandfathered rights as determined pursuant to section 45-465.

Ariz. Rev. Stat. 45-463. Type 1 non-irrigation grandfathered right associated with retired irrigated land; appurtenancy; ownership

A. In an initial active management area, a person who owns land which was legally entitled to be irrigated with groundwater and who retired such land from irrigation after January 1, 1965 but prior to the date of the designation of the active management area in anticipation of a non-irrigation use has the right to withdraw from or receive for such land three acre-feet of groundwater per acre per year upon showing that:

1. The land has been held under the same ownership since it was retired.

2. A development plan for the proposed non-irrigation use existed at the time the land was retired.

B. In a subsequent active management area, a person who owns land which was legally entitled to be irrigated with groundwater and retires such land from irrigation prior to the date of the designation of the active management area in anticipation of a non-irrigation use has the right to withdraw from or receive for such land the lesser of three acre-feet of groundwater per acre per year or the average annual amount of groundwater which was used per acre during the five years preceding the time the land was retired upon showing that:

1. The land has been held under the same ownership since it was retired.

2. A development plan for the proposed non-irrigation use existed at the time the land was retired and is filed with the director within ninety days after the active management area is designated.

C. The development plan requirements of this section are deemed fulfilled if the land retired from irrigation has been described in an application for a certificate of exemption or if the land retired from irrigation is owned in conjunction with non-irrigation uses existing or for which substantial capital commitments have been incurred for the non-irrigation development of such land as of the date of the designation of the active management area.

D. The right to withdraw or receive groundwater pursuant to this section is a non-irrigation grandfathered right associated with retired irrigated land, or a type 1 non-irrigation grandfathered right.

E. A type 1 non-irrigation grandfathered right is appurtenant to the acre of retired irrigated land associated with the right, is owned by the owner of the land to which the right is appurtenant and may be leased with the land.

F. At the request of a city or town in the Tucson active management area that holds a type 1 non-irrigation grandfathered right under subsection A of this section, the director, in determining whether to designate or redesignate the city or town as having an assured water supply pursuant to section 45-576, shall include four and one-half acre-feet of groundwater for each acre of retired irrigated land to which the right is appurtenant, multiplied by the number of years between the year of retirement and the year of the request, minus the quantity of groundwater withdrawn from the land between June 12, 1980 and the year of the request, except that:

1. No groundwater may be included for any acre of retired irrigated land for any year after the land is developed for any municipal or industrial use.

2. The amount of groundwater that is included under this subsection shall not exceed four and one-half acre-feet for each acre of retired irrigated land to which the right is appurtenant multiplied by the number of years between the year of retirement and December 31, 2025 minus the quantity of groundwater withdrawn from the land between June 12, 1980 and December 31, 2025.

3. The net amount of groundwater included under this subsection shall not exceed two million acre-feet.

4. The city or town, before making the request of the director, shall extinguish any irrigation grandfathered

rights or type 1 non-irrigation grandfathered rights held by the city or town and appurtenant to land acquired or contracted for by the city or town after June 12, 1980 in the same sub-basin.

G. In determining whether to designate a city or town as having an assured water supply pursuant to section 45-576, the director shall not consider the exercise of the right to withdraw groundwater under subsection F of this section to be the withdrawal of groundwater available from natural or artificial groundwater recharge.

Ariz. Rev. Stat. 45-464. Type 2 non-irrigation grandfathered right not associated with retired irrigated land; determination of amount; definition; ownership

A. In an active management area, a person who owns land from which groundwater was being legally withdrawn and used for a non-irrigation purpose as of the date of the designation of the active management area has the right to withdraw annually:

1. If the person holds a certificate of exemption, the greater of:

(a) The amount of groundwater established in proceedings on the application for certificate of exemption, subject to any modification as a result of a finding on appeal of a factual mistake by the state land department or Arizona water commission in computing the amount of the authorized withdrawal, less the amount of any right obtained by the person pursuant to section 45-463.

(b) The maximum amount of groundwater legally withdrawn from such land and used by the person in any one of the five years preceding the date of the designation of the active management area, less the amount of any right obtained by the person pursuant to section 45-463.

2. If the person does not hold a certificate of exemption, the maximum amount of groundwater legally withdrawn from such land and used by the person withdrawing the groundwater in any one of the five years preceding the date of the designation of the active management area, less the amount of any right obtained pursuant to section 45-463 by the person withdrawing groundwater from such land which has not been subtracted by the person withdrawing the groundwater in calculating the amount of another right pursuant to this section.

B. If the calculation in subsection A of this section results in an amount greater than zero, that amount is a grandfathered right in addition to any right obtained pursuant to section 45-463.

C. For the purposes of this section, "person" includes:

1. A city, town or private water company which owns land outside of the service area of such city, town or private water company from which groundwater was being legally withdrawn for a non-irrigation use as of the date of the designation of the active management area.

2. A city, town or private water company withdrawing groundwater from within its service area pursuant to a certificate of exemption.

3. Any other non-irrigation user.

D. If a person has been using groundwater for less than one year during the twelve months immediately preceding the date of the designation of the active management area, the amount of the grandfathered right pursuant to this section is the annual amount determined by the director to be reasonable for a full year to meet the requirements for a facility owned by such person in existence as of the date of the designation of the active management area.

E. If a person has received a certificate of environmental compatibility pursuant to title 40, chapter 2, article 6.2 for the construction of an electrical generating facility within a subsequent active management area for which expenditures or financial commitments for land acquisition, water development, materials, construction or engineering in excess of five hundred thousand dollars have been made before the date of the notice of the initiation of designation procedures or the call for the election for the area, the amount of the grandfathered right pursuant to this section is the annual amount determined by the director to be reasonable to meet the operational requirements for the facility for a full year.

F. The right to withdraw groundwater pursuant to this section is a non-irrigation grandfathered right not associated with retired irrigated land, or a type 2 non-irrigation grandfathered right.

G. A type 2 non-irrigation grandfathered right may be leased. Except as provided in subsection H of this section, the owner or lessee of a type 2 non-irrigation grandfathered right may withdraw groundwater pursuant to the right only from a location within the same active

management area in which the certificate of grandfathered right is issued.

H. Beginning July 1, 1994, the holder of a type 2 non-irrigation grandfathered right issued in the Tucson active management area prior to July 1, 1994, may withdraw groundwater pursuant to the right only from a location within the same active management area in which the well or wells listed on the certificate of grandfathered right on July 1, 1994, are located. If no well is listed on the certificate of grandfathered right on July 1, 1994, the holder of the right may withdraw groundwater pursuant to the right only from a location within the same active management area in which the land from which the originating withdrawals were made is located. For purposes of this subsection, the term "originating withdrawals" means the withdrawals of groundwater on which the issuance of a type 2 non-irrigation grandfathered right was based.

I. If the user of a type 2 non-irrigation grandfathered right is different from the owner of the right, either the owner, or the user of the right on behalf of the owner, may apply for a certificate of grandfathered right pursuant to section 45-476.

Ariz. Rev. Stat. 45-465. Irrigation grandfathered right; determination of acres entitled to and amount; appurtenancy

A. In an active management area, a person who owns land which was legally irrigated in whole or in part with

groundwater at any time during the five years preceding January 1, 1980 for initial active management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas, which is capable of being irrigated and which has not been retired from irrigation for a non-irrigation use pursuant to section 45-463 or 45-469 has the right to use groundwater for the irrigation of such land as determined pursuant to subsection B of this section.

B. The director shall compute the maximum amount of groundwater which may be used pursuant to this section as follows:

1. Determine the farm units, as defined in section 45-402, within the active management area.

2. Determine the irrigation water duty, as defined in section 45-402, for each farm unit in an active management area, pursuant to sections 45-564 through 45-568.

3. Determine the water duty acres for each farm within the farm unit. The water duty acres are the highest number of acres in the farm, taking land rotation into account, which were legally irrigated during any one year in the five years preceding January 1, 1980 for initial active management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas.

4. Determine the irrigation acres for each farm within the farm unit. The irrigation acres are the acres in the farm which were legally irrigated at any time during the five years preceding January 1, 1980 for initial active

management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas, which are capable of being irrigated and which have not been retired from irrigation for a non-irrigation use pursuant to section 45-463 or 45-469.

5. Multiply the water duty acres for each farm within the farm unit by the irrigation water duty for the farm unit and divide that amount by the number of irrigation acres in the farm. The result shall be the maximum amount of groundwater which may be used per year for the irrigation of each irrigation acre in the farm. If the farm is located in an active management area other than the Santa Cruz active management area and is irrigated solely with groundwater, the amount of groundwater used by the farm for irrigation shall be accounted for pursuant to section 45-467, subsection C. If a farm is located in an active management area other than the Santa Cruz active management area and is irrigated with a combination of surface water and groundwater, the amount of groundwater used by the farm for irrigation shall be accounted for pursuant to section 45-467, subsection D. If a farm is located in the Santa Cruz active management area, the amount of water, other than stored water, withdrawn from a well and used by the farm for irrigation purposes shall be accounted for pursuant to section 45-467, subsection E or F.

C. The right to use groundwater pursuant to this section for the irrigation of an irrigation acre is an irrigation grandfathered right and is appurtenant to that acre. An irrigation grandfathered right is owned by the owner of

the land to which it is appurtenant and may be leased for an irrigation use with the land to which it is appurtenant.

D. A person who owns or leases irrigation acres may use the total amount of groundwater allowed by the irrigation grandfathered right for such acres for the irrigation of all or a portion of such acres.

E. If the irrigation water duty for the farm unit in which an irrigation acre is located is reduced by the director pursuant to article 9 of this chapter, the amount of groundwater which may be used for the irrigation of such acre pursuant to the irrigation grandfathered right under this section is reduced accordingly.

F. For purposes of this chapter, the amount of groundwater which may be used or is used is the amount of groundwater withdrawn by the groundwater user, measured at the point of withdrawal, and the amount of groundwater received by the groundwater user from an irrigation district or other source.

Ariz. Rev. Stat. 45-474. Conveyance of type 2 non-irrigation grandfathered right; amount

A. The owner of a type 2 non-irrigation grandfathered right may convey the right for any non-irrigation use, except that:

1. A type 2 non-irrigation grandfathered right that is used for purposes of mineral extraction or processing may be conveyed only for a mineral extraction or processing use.

2. A type 2 non-irrigation grandfathered right that is used for purposes of electrical energy generation may be conveyed only for an electrical energy generation use.

3. A type 2 non-irrigation grandfathered right in a subsequent active management area that is used for purposes of demonstrating and providing an assured water supply pursuant to section 45-576 in an initial active management area may be conveyed only for the same use and only with the approval of the director. The director shall not withhold approval of a conveyance under this paragraph if the right is no longer needed to provide the assured water supply that it was used to demonstrate.

B. A type 2 non-irrigation grandfathered right may not be conveyed for an irrigation use.

C. If a type 2 non-irrigation grandfathered right is conveyed, the full amount of the right is conveyed.

Ariz. Rev. Stat. 45-492. Withdrawals by cities, towns and private water companies within service areas; contract to supply groundwater

A. Except as provided in subsection D of this section, in an active management area, a city, town or private water company shall have the right to withdraw and transport groundwater within its service area for the benefit of landowners and residents within its service area, and the landowners and residents are entitled to use the groundwater delivered, subject to:

1. The provisions of articles 8 and 8.1 of this chapter relating to transportation of groundwater.

2. Conservation requirements developed by the director pursuant to article 9 of this chapter.

B. Claims of landowners to irrigation grandfathered rights or type 1 or 2 non-irrigation grandfathered rights shall be subject to the provisions of article 5 of this chapter.

C. A city, town or private water company may contract to supply groundwater to a city, town or private water company in the same active management area if it is consistent with the management plan for the active management area and section 45-576 and is approved by the director.

D. In an active management area, a city, town or private water company whose service area has qualified as a member service area under title 48, chapter 22, or as a water district member service area under title 48, chapter 28, has the right to withdraw and transport groundwater within its service area for the benefit of landowners and residents within its service area, and the landowners and residents are entitled to use the groundwater delivered, subject to the provisions of subsection A of this section and, to the extent the groundwater delivered is considered excess groundwater as defined and used in title 48, chapter 22 or 28, as applicable, subject to the payment by the city, town or private water company of the replenishment tax levied from time to time by a conservation district under title 48, chapter 22, or a water district under title 48, chapter 28, whichever is applicable. A city, town or private water company shall be deemed to have

failed to pay the replenishment tax only if the conservation district or the water district provides notice to the department of a delinquency in the payment of the replenishment tax pursuant to section 48-3781, subsection G or section 48-4982, subsection G, as applicable.

Ariz. Rev. Stat. 45-513. Dewatering permit; definition; priorities for use of groundwater; conditions on director; duration of permit

A. Except as provided in subsection F of this section, a person who is engaged in or proposes to engage in the extraction and processing of minerals shall be issued a dewatering permit for the beneficial use of the land for mineral extraction, for metallurgical processing and for compliance with applicable environmental controls. For purposes of this section, "dewatering" means the withdrawal of groundwater from pits, from in, under and around ore bodies in proximity to pits and from underground workings. Dewatering does not include process water and tailing water recovered from or pumped from beneath tailing ponds.

B. A person who is engaged in or proposes to engage in the extraction and processing of minerals may recover from or pump from beneath tailing ponds process water and tailing water without obtaining a permit under this article, if that water is recycled into the extraction or metallurgical process or is withdrawn to comply with applicable environmental controls. Such a person may not drill or cause to be drilled a well for the purpose of pumping or recovering process water or tailing water

from beneath tailing ponds for recycling into the extraction or metallurgical process without first filing a notice of intention to drill under section 45-596.

C. Groundwater withdrawn pursuant to a dewatering permit shall be used in the following order of priority:

1. To meet mineral extraction, metallurgical processing and environmental control requirements of the permittee.

2. To a city, town, private water company or farm and any other person whose respective ability to withdraw groundwater has been adversely affected by a dewatering permit. Such water shall be equitably allocated by the director without costs but subject to the conditions set forth in subsection D of this section among such persons adversely affected by such dewatering. A person who receives an allocation of water under this paragraph shall reduce his groundwater withdrawals by the amount of water he receives under this paragraph. A person receiving water under this paragraph does not thereby forfeit or abandon his right to withdraw groundwater.

3. For municipal, commercial, domestic and industrial needs of communities and residential areas directly related to the mineral extraction and metallurgical processing operation of the permittee.

4. To irrigate land owned or controlled by the permittee which is entitled to the use of groundwater for irrigation.

5. To the director for such distribution as will best achieve the goals and purposes of the management plan for the active management area.

6. For such other legal purpose as the permittee elects.

D. Groundwater made available to the director for distribution or allocation under this section is subject to the following conditions:

1. The permittee shall deliver the groundwater to the boundary of his property but shall not be obligated to deliver it further.

2. The permittee shall not be required to treat the chemical quality of the groundwater for distribution or allocation.

3. The permittee shall not be required to make the groundwater available if dewatering ceases, or if all or any portion of the groundwater is needed for a purpose having a higher priority as specified in subsection C of this section.

4. The person actually using the groundwater distributed or allocated by the director shall be responsible for paying any withdrawal fees required under section 45-611.

5. If the director sells water, proceeds shall be applied as follows:

(a) To cover costs, if any, of the director in delivering water to other users.

(b) To cover the permittee's cost in transporting water to the boundary of his property.

(c) To the active management area for general purposes as determined by the director.

E. A permit issued pursuant to this section shall be granted for a period of up to fifty years, subject to

renewal under the same criteria used in granting the original permit.

F. Beginning January 1 of the calendar year following the year in which a groundwater replenishment district is required to submit its preliminary plan pursuant to section 45-576.02, subsection A, paragraph 1, and except for an application to renew a dewatering permit, on receiving a permit application the director shall not issue a permit for a well in the district unless at the time the application for the permit is filed:

1. The director has determined that the district's plan for operation is consistent with achieving the management goal, according to section 45-576.03, subsection E, and the designation has not expired.

2. The master replenishment account, as established in section 45-858.01, does not have a debit balance in an amount in excess of the amount allowed under section 45-576.01, subsection A, paragraph 3.

Ariz. Rev. Stat. 45-514. Mineral extraction and metallurgical processing permit; conditions for issuance; duration of permit

A. Except as provided in subsection D of this section, a person who is engaged in or proposes to engage in the extraction and processing of minerals shall be issued a permit to withdraw groundwater in the required amount, if all of the following apply:

1. The amount of groundwater available for mineral extraction, metallurgical processing and compliance with applicable environmental controls under a dewatering permit is insufficient.

2. Uncommitted municipal and industrial central Arizona project water is not available at the point where the operator's wellhead or distribution system would otherwise be, at a cost which does not exceed the current municipal and industrial central Arizona project delivery rates.

3. Other surface water of adequate quality or effluent of adequate quality is not available at the point where the operator's wellhead or distribution system would otherwise be, at a cost, including treatment costs, which does not exceed by twenty-five per cent the cost the operator would otherwise incur in withdrawing groundwater.

4. The applicant does not own or lease type 2 nonirrigation grandfathered rights originally based on withdrawals of groundwater for the extraction or processing of minerals that the applicant is not using or leasing and that can be used at the proposed location without imposing an unreasonable economic burden on the applicant.

B. A permit issued pursuant to this section shall be granted for a period of up to fifty years, subject to renewal under the same criteria used in granting the original permit.

C. If, during the duration of a mineral extraction and metallurgical processing permit, the director determines

that uncommitted municipal and industrial central Arizona project water is available or surface water of adequate quality or effluent of adequate quality is available to the permittee at a cost comparable to groundwater, the director may require the permittee to use such water in lieu of groundwater.

D. Beginning January 1 of the calendar year following the year in which a groundwater replenishment district is required to submit its preliminary plan pursuant to section 45-576.02, subsection A, paragraph 1, and except for an application to renew a mineral extraction and metallurgical processing permit, on receiving a permit application the director shall not issue a permit for a well in the district unless at the time the application is filed:

1. The director has determined that the district's plan for operation is consistent with achieving the management goal, according to section 45-576.03, subsection E, and the designation has not expired.

2. The master replenishment account, as established in section 45-858.01, does not have a debit balance in an amount in excess of the amount allowed under section 45-576.01, subsection A, paragraph 3.

45-515.

Ariz. Rev. Stat. 45-515. General industrial use permits; conditions for issuance; duration of permit

A. Except as provided in subsection D of this section, the director shall issue a permit to withdraw groundwater from a point outside of the exterior boundaries of the service area of a city, town or private water company for a general industrial use outside of the exterior boundaries of such service area if the director determines that all of the following apply:

1. Uncommitted municipal and industrial central Arizona project water is not available at the point where the operator's wellhead or distribution system would otherwise be, at a cost which does not exceed the current municipal and industrial central Arizona project rates.

2. Other surface water of adequate quality or effluent of adequate quality is not available at the point where the operator's wellhead or distribution system would otherwise be, at a cost, including treatment costs, which does not exceed by twenty-five per cent the cost the operator would otherwise incur in withdrawing groundwater.

3. Irrigation grandfathered rights appurtenant to acres of land in reasonable proximity to the intended general industrial use are not available for purchase at a reasonable price or cannot be acquired by eminent domain and the applicant does not own or lease grandfathered rights that the applicant is not using or leasing, that may be used for the intended general industrial use and that can be used for the intended general industrial use without imposing an unreasonable economic burden on the applicant.

4. The intended general industrial use, if located within three miles of the exterior boundaries of the service area of a city, town or private water company, has been denied service by the city, town or private water company at the customary rate in the customary manner. The requirement of this paragraph does not apply to an expanded animal industry use.

5. The management plan for the active management area can be adjusted to accommodate the intended general industrial use consistent with the achievement of the management goal for the active management area.

6. There is an assured water supply for the intended use at the intended point of withdrawal. The director may waive this requirement if the director is unable to determine if there is an assured water supply because of hydrogeologic conditions underlying the point of withdrawal. For purposes of this section, "assured water supply" means that sufficient groundwater of adequate quality will be available to the applicant to satisfy the projected general industrial use for the duration of the permit.

7. If a new well or replacement well at a new location is to be constructed, a permit for the well has been issued pursuant to section 45-599.

B. A permit issued pursuant to this section shall be granted for a period of up to fifty years, subject to renewal under the same criteria used in granting the original permit.

C. If, during the life of the permit, the director determines that uncommitted municipal and industrial central

Arizona project water is available or other water or effluent of adequate quality is available at a cost comparable to groundwater, the director may require the permittee to use such water in lieu of groundwater.

D. Beginning January 1 of the calendar year following the year in which a groundwater replenishment district is required to submit its preliminary plan pursuant to section 45-576.02, subsection A, paragraph 1, and except for an application to renew a general industrial use permit, on receiving a permit application the director shall not issue a permit for a well in the district unless at the time the application is filed:

1. The director has determined that the district's plan for operation is consistent with achieving the management goal, according to section 45-576.03, subsection E, and the designation has not expired.

2. The master replenishment account, as established in section 45-676, does not have a debit balance in an amount in excess of the amount allowed under section 45-576.01, paragraph 3.

Ariz. Rev. Stat. 45-563. Management plans in active management areas; management periods; general provisions

A. The director shall develop a management plan for each initial active management area for each of five management periods pursuant to the guidelines prescribed in sections 45-564 through 45-568 and shall adopt the plans only after public hearings held pursuant to sections

45-570 and 45-571. The plans shall include a continuing mandatory conservation program for all persons withdrawing, distributing or receiving groundwater designed to achieve reductions in withdrawals of groundwater.

B. The director shall develop a management plan for the Santa Cruz active management area for the third, fourth and fifth management periods pursuant to the guidelines prescribed in sections 45-566, 45-566.01, 45-567, 45-567.01, 45-568 and 45-568.01 and shall adopt the plans only after public hearings held pursuant to sections 45-570 and 45-571. The plans shall include a continuing mandatory conservation program designed to achieve the management goal of the active management area for all persons withdrawing water, other than stored water, from a well and all persons distributing or receiving water, other than stored water, from a well. The plans shall also include criteria for the location of new wells and replacement wells in new locations consistent with the management goal of the active management area.

Supreme Court, U.S.
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In the Supreme Court of the United States

PHELPS DODGE CORPORATION, ET AL., PETITIONERS

v.

UNITED STATES OF AMERICA, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE SUPREME COURT OF ARIZONA

BRIEF FOR THE UNITED STATES IN OPPOSITION

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QUESTION PRESENTED

Whether an interlocutory decision of the Arizona Supreme Court establishing a rule of state water law to be applied in an ongoing general stream adjudication effected a judicial taking of petitioners' property without just compensation in violation of the Fifth Amendment.

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In the Supreme Court of the United States

No. 00-1464

PHELPS DODGE CORPORATION, ET AL., PETITIONERS

v.

UNITED STATES OF AMERICA, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE SUPREME COURT OF ARIZONA

BRIEF FOR THE UNITED STATES IN OPPOSITION

OPINIONS BELOW

The opinion of the Arizona Supreme Court (Pet. App. A1-A34) is reported at 9 P.3d 1069. The opinion of the Superior Court of the State of Arizona (Pet. App. B1-B71) is unreported. An earlier opinion of the Arizona Supreme Court (Pet. App. C1-C30) is reported at 857 P.2d 1236. An earlier opinion of the Superior Court of the State of Arizona (Pet. App. F1-F30) is unreported.

JURISDICTION

The judgment of the Arizona Supreme Court was entered on September 22, 2000. A motion for reconsideration was denied on December 19, 2000 (Pet. App. I1-I2). The petition for a writ of certiorari was filed on

March 19, 2001. The jurisdiction of this Court is sought to be invoked under 28 U.S.C. 1257(a). As discussed below, however (see pp. 8-10, *infra*), this Court does not have jurisdiction because the Arizona Supreme Court's interlocutory ruling is not a "[f]inal judgment[] or decree[]" within the meaning of 28 U.S.C. 1257(a).

STATEMENT

In 1990, the Arizona Supreme Court certified six issues for interlocutory review in order to aid the state trial court in resolving the claims of competing parties in the ongoing general stream adjudication of the Gila River System. Pet. App. D1-D12. In addressing the second of those six issues, the Arizona Supreme Court has now affirmed a trial court order defining "subflow," a term of art in Arizona water law. *Id.* at A1-A34. Petitioners argue that the state court's decision warrants review by this Court because it effected a judicial taking of property without just compensation in violation of the Fifth Amendment.

1. This case arises from a general stream adjudication brought under Arizona law to determine all rights to use waters of the Gila River System in Arizona. See generally Ariz. Rev. Stat. Ann. §§ 45-251 to 45-264 (West 1994 & Supp. 2000) (establishing procedures for such river system adjudications). The history of the adjudication is described in *Arizona* v. *San Carlos Apache Tribe*, 463 U.S. 545, 557-559 (1983); *In re Rights to the Use of the Gila River*, 830 P.2d 442, 444-445 (Ariz. 1992); and *United States* v. *Superior Court*, 697 P.2d 658, 663-664 (Ariz. 1985) (en banc).[1]

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[1] This Court recently denied a petition for certiorari seeking review of a different interlocutory opinion of the Arizona Supreme Court in the same adjudication. See *In re the General Adjudication of All Rights to Use Water in the Gila River System and*

The United States is participating in the adjudication pursuant to the McCarran Amendment, 43 U.S.C. 666. Under the doctrine of federally reserved water rights, see, *e.g.*, *United States* v. *New Mexico*, 438 U.S. 696, 698 (1978); *Cappaert* v. *United States*, 426 U.S. 128, 138 (1976); *Arizona* v. *California*, 373 U.S. 546, 599-600 (1963); *Winters* v. *United States*, 207 U.S. 564, 575-578 (1908), the United States claims rights to the use of certain waters in the Gila River System on its own behalf and as trustee for several Indian reservations. The United States also claims water rights arising under Arizona law, as well as rights confirmed by the 1935 Globe Equity Decree entered by the United States District Court for the District of Arizona. See *United States* v. *Gila Valley Irrigation Dist.*, 961 F.2d 1432 (9th Cir. 1992) (action to enforce the 1935 decree).

2. Arizona law generally classifies water into three categories: (1) surface water, such as lakes, ponds, rivers, and streams, including underground streams; (2) "subflow" groundwater that is closely connected to surface water in hydrology and is considered incidental thereto; and (3) "percolating" groundwater that is not so closely connected to surface water. See Pet. App. A6-A8, C8-C14. Rights to water within the first two categories are governed by the state-law doctrine of "prior appropriation," while rights to percolating groundwater are subject to the state-law doctrine of "reasonable use." See *ibid.*; Ariz. Rev. Stat. Ann. § 45-141.A (West 1994 & Supp. 2000). Under the doctrine of prior appropriation, "the one who first appropriates water and puts it to beneficial use thereby acquires a vested right to continue to divert and use that quantity

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Source, 989 P.2d 739 (Ariz. 1999) (en banc), cert. denied, 530 U.S. 1250 (2000) (Nos. 99-1388 & 99-1389).

of water against all claimants junior to him in point of time." *Arizona* v. *California*, 373 U.S. at 555. Under the doctrine of reasonable use, a landowner may capture as much of the groundwater underlying his property as can be used on the overlying land, regardless of the effect on the quantity of water available to others. See *Bristor* v. *Cheatham*, 255 P.2d 173, 179-180 (Ariz. 1953).

3. In 1988, the Arizona superior court entered an order that addressed several aspects of the relationship between groundwater and surface water. See Pet. App. F1-F32; see also *id.* at G1-G4 (setting forth the questions that the superior court proposed to address). The court considered the circumstances under which wells used to draw groundwater from the portion of a stream basin known as the "younger alluvium"[2] would be presumed to withdraw subflow. The court stated that "[a]s to wells located in or close to that younger alluvium," that presumption would apply whenever

> the volume of stream depletion would reach 50% or more of the total volume pumped during one growing season for agricultural wells or during a typical cycle of pumpage for industrial, municipal, mining, or other uses, assuming in all instances and for all types of use that the period of withdrawal is equivalent to 90 days of continuous pumping for purposes of technical calculation.

Id. at F14.

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[2] The "younger alluvium" is the portion of a stream basin nearest the stream itself, made of deposits dating from approximately the last 10,000 years. See Pet. App. A5 n.2, B11-B12, B19, B21-B22.

4. In response to petitions for review filed by numerous parties, the Arizona Supreme Court in 1990 certified six issues for interlocutory appeal. See Pet. App. D1-D17; see also *id.* at E1-E10 (establishing procedures for interlocutory appeals in this adjudication). The second of those certified questions was whether the trial court's test for subflow—termed the "50%/90 day" test—was erroneous. See *id.* at D2.

In a decision commonly known as *Gila River II*, the Arizona Supreme Court vacated the portion of the superior court's order establishing the "50%/90 day" test for subflow. See Pet. App. C1-C30. The Arizona Supreme Court perceive[d] "[its] role as interpreting" its 1931 decision in *Maricopa County Municipal Water Conservation District No. 1* v. *Southwest Cotton Co.*, 4 P.2d 369 (Ariz. 1931), which established that subflow constitutes "part of the surface stream itself" and thus is appropriable under the relevant statutes in the same way as surface water. Pet. App. C13, C16 (quoting *Southwest Cotton*, 4 P.2d at 380). The court recognized that *Southwest Cotton* had established the following test:

> [T]he test is always the same: *Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream?* If it does, it is subflow, and subject to the same rules of appropriation as the surface stream itself; if it does not, then, although it may originally come from the waters of such stream, it is not, strictly speaking, a part thereof, but is subject to the rules applying to percolating waters.

Id. at C13-C14 (quoting *Southwest Cotton*, 4 P.2d at 380-381); see also *id.* at C17, C26 (recognizing that

Southwest Cotton established a "direct and appreciable diminution" test for subflow).

The Arizona Supreme Court held that the superior court's "50%/90 day" test did not comport with the definition of subflow set forth in *Southwest Cotton*. Pet. App. C16-C24. The court explained:

> Whether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time. * * * [I]t turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium. For example, comparison of such characteristics as elevation, gradient, and perhaps chemical makeup can be made. Flow direction can be an indicator.

Id. at C24. The court remanded the case to allow the superior court to determine more appropriate "criteria for separating appropriable subflow from percolating groundwater." *Id.* at C30.

5. On remand, the superior court conducted substantial further proceedings, including numerous evidentiary hearings in which hundreds of exhibits were introduced, as well as a tour of multiple sites in the San Pedro River Basin (a portion of the larger Gila River Basin). See Pet. App. B2-B8. The court then issued an order applying the criteria set forth in *Gila River II*:

> After consideration of flow direction, water level elevation, the gradation of water levels over a stream reach, the chemical composition if available, and lack of hydraulic pressure from tributary aquifer and basin fill recharge which is perpendicular to stream and "subflow" direction, the Court finds the most accurate of all the markers is the edge of the saturated floodplain Holocene alluvium.

Id. at B54. Thus, the trial court adopted the "saturated floodplain Holocene alluvium" as the subflow zone. *Id.* at B54-B58. Any well pumping part of its water from that zone would be included within the adjudication of rights to Gila River System water. See *id.* at B58-B63.

6. On further interlocutory review, the Arizona Supreme Court affirmed the superior court's order. See Pet. App. A1-A34. After examining *Southwest Cotton* and *Gila River II*, see *id.* at A8-A12, the court found that the superior court had properly "based its ruling on evaluation of the pertinent factors * * * for delineating the subflow zone," *id.* at A14. The Arizona Supreme Court concluded that

> [u]nlike the 50%/90 day test we rejected in *Gila River II*, the trial court's order after remand is not arbitrary. Nor does it include tributary aquifers in its definition of subflow. Although the saturated floodplain Holocene alluvium may appear to be inconsistent with the "narrow concept" of subflow described in *Gila River II*, and suggested in *Southwest Cotton*, we reject the argument that the trial court's findings and conclusions, as a matter of law, so violate the fundamental principles of those cases that they cannot stand. Nor does affirmance of the trial court's order require us to overrule *Gila River II* or *Southwest Cotton*, and we do not do so.

Id. at A25-A26 (citations omitted). The court also stated that "[t]he criteria that the trial court articulated were elaborations of, but consistent with, the more general criteria set forth in *Gila River II*." *Id.* at A26.

Finally, the Arizona Supreme Court rejected the contention that the superior court's order "amount[ed] to an unconstitutional taking of [groundwater users'] private property, in violation of the Fifth Amendment."

Pet. App. A33. The court explained that "[i]n remanding this matter in *Gila River II* for the trial court to establish an evidentiary and principled basis for differentiating appropriable subflow from percolating groundwater, we implicitly rejected the groundwater users' identical argument in that case." *Ibid.* The court also observed that under Arizona law, "a well owner does not own underground water," and "landowners have 'no legally recognized property right in potential, future groundwater use.'" *Ibid.* (quoting *In re Rights to the Use of the Gila River*, 830 P.2d at 451).

ARGUMENT

The Arizona Supreme Court's interlocutory decision is not a "[f]inal judgment[] or decree[]" within the meaning of 28 U.S.C. 1257(a), the jurisdictional provision that governs this Court's review of state court decisions. In any event, the Arizona Supreme Court's ruling did not effect a taking of private property, and the decision raises no federal question of recurring significance. The petition for a writ of certiorari should therefore be denied.

1. This Court has jurisdiction to review "[f]inal judgments or decrees rendered by the highest court of a State * * * where any title, right, privilege, or immunity is specially set up or claimed under the Constitution or the treaties or statutes of * * * the United States." 28 U.S.C. 1257(a). Section 1257(a) "establishes a firm final judgment rule." *Jefferson* v. *City of Tarrant*, 522 U.S. 75, 81 (1997). "To be reviewable by this Court, a state-court judgment must be final 'in two senses: it must be subject to no further review or correction in any other state tribunal; it must also be final as an effective determination of the litigation and not of merely interlocutory or intermediate steps

therein.'" *Ibid.* (quoting *Market Street Ry.* v. *Railroad Comm'n*, 324 U.S. 548, 551 (1945)). Because the Arizona Supreme Court's interlocutory ruling is not a "[f]inal judgment[] or decree[]" within the meaning of Section 1257(a), this Court lacks jurisdiction to review the state court's decision.

a. Like the order at issue in *Jefferson*, the Arizona Supreme Court's decision in this case is an interlocutory ruling that arose from the state court's decision to certify certain legal questions for preliminary determination. Compare *Jefferson*, 522 U.S. at 81, with Pet. App. A4-A5, D1-D2. The Arizona Supreme Court's decision does not terminate the litigation or resolve any of the claims raised therein. Rather, it provides prospective guidance to the superior court on matters of Arizona law. The Arizona Supreme Court's decision is an "intermediate step[]" and not the "final word" on water rights claims in the Gila River Basin. *Jefferson*, 522 U.S. at 81.

b. In *Cox Broadcasting Corp.* v. *Cohn*, 420 U.S. 469 (1975), this Court identified four categories of state decisions that are deemed effectively final, for purposes of Section 1257(a), notwithstanding the prospect of further proceedings in the lower state courts. The Arizona Supreme Court's decision does not fall within any of those categories.

The only conceivably applicable *Cox Broadcasting* category is the second, which encompasses "cases * * * in which the federal issue, finally decided by the highest court in the State, will survive and require decision regardless of the outcome of future state-court proceedings."[3] 420 U.S. at 480. That exception

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[3] The other three categories of state court decisions that can be final under Section 1257(a) notwithstanding the pendency of

addresses situations when "the federal issue would not be mooted or otherwise affected by the proceedings yet to be had because those proceedings have little substance, their outcome is certain, or they are wholly unrelated to the federal question." *Id.* at 478. In the instant case, however, the outcome of the proceedings on remand is scarcely foreordained. As in *Jefferson*, petitioners' takings claim may become moot as the litigation progresses if the superior court determines their water rights in a manner that petitioners find satisfactory. See 522 U.S. at 77, 82.

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proceedings on remand are (1) "cases in which there are further proceedings—even entire trials—yet to occur in the state courts but where for one reason or another the federal issue is conclusive or the outcome of further proceedings preordained," 420 U.S. at 479; (2) "situations where the federal claim has been finally decided, with further proceedings on the merits in the state courts to come, but in which later review of the federal issue cannot be had, whatever the ultimate outcome of the case," *id.* at 481; and (3) "situations where the federal issue has been finally decided in the state courts with further proceedings pending in which the party seeking review here might prevail on the merits on nonfederal grounds, thus rendering unnecessary review of the federal issue by this Court, and where reversal of the state court on the federal issue would be preclusive of any further litigation on the relevant cause of action rather than merely controlling the nature and character of, or determining the admissibility of evidence in, the state proceedings still to come," *id.* at 482-483. Those categories are inapplicable because: (1) even if this Court were to review the decision of the Arizona Supreme Court, substantial further state-court litigation would be needed to adjudicate parties' actual water rights, regardless of this Court's decision; (2) if petitioners are dissatisfied with the state courts' ultimate determination of their water rights, there should be no impediment to petitioners' re-assertion of their constitutional claim at the conclusion of the state-court proceedings; and (3) reversal of the Arizona Supreme Court's decision on the takings issue would not be preclusive of any further litigation.

2. Even if the decision of the Arizona Supreme Court were final, that decision would not warrant the Court's review. Under Arizona law, petitioners had no property interest that the state court's decision could have taken. Even if petitioners possessed such a property right, this case would be a poor vehicle for the Court's consideration of the question whether, and under what circumstances, a state court's elaboration of state property law principles effects a taking requiring the payment of just compensation. In any event, the decision of the Arizona Supreme Court reflects no dramatic departure from that court's precedents.

a. The gravamen of petitioners' takings claim is that the decision below "transform[ed] vast quantities of what had formerly been percolating g[r]oundwater into subflow that is suddenly subject to appropriation." Pet. 12. The Arizona Supreme Court has long held, however, that under state law, groundwater users have no property interest in "potential, future groundwater use." Pet. App. A33 (quoting *In re Rights to the Use of the Gila River*, 830 P.2d at 451); see also *Lucas* v. *South Carolina Coastal Council*, 505 U.S. 1003, 1016 (1992) (recognizing that property rights are ordinarily determined by reference to state law). Petitioners' takings claim must fail for that reason alone.

In *Town of Chino Valley* v. *City of Prescott*, 638 P.2d 1324 (Ariz. 1981) (in banc), appeal dismissed, 457 U.S. 1101 (1982), the Arizona Supreme Court considered a challenge by a groundwater user to Arizona's newly enacted Groundwater Management Act of 1980. See *id.* at 1325 & n.*. One of the groundwater user's claims was that the statute took property without just compensation. See *id.* at 1326. In rejecting that contention, the Arizona Supreme Court squarely held "that there is no right of ownership of groundwater in Arizona prior

to its capture and withdrawal from the common supply and that the right of the owner of the overlying land is simply to the usufruct of the water." *Id.* at 1328. Arizona courts since *Town of Chino Valley* have consistently recognized that overlying landowners do not own subsurface percolating groundwater prior to its capture and withdrawal. See, *e.g.*, *In re Rights to the Use of the Gila River*, 830 P.2d at 451; *Aikins* v. *Arizona Dep't of Water Res.*, 743 P.2d 946, 950-951 (Ariz. App. 1987). Federal courts have also recognized that principle of Arizona law. See *Cherry* v. *Steiner*, 543 F. Supp. 1270, 1277-1278 (D. Ariz. 1982), aff'd, 716 F.2d 687, 691-692 & n.1 (9th Cir. 1983), cert. denied, 466 U.S. 931 (1984). Although petitioners argue that *Town of Chino Valley* "merely acknowledges the fact that the Legislature may *prospectively* regulate groundwater uses" (Pet. 21), that characterization simply ignores the relevant portion of the opinion.[4]

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[4] Petitioners also contend (Pet. 22-24) that the Groundwater Management Act—the statute at issue in *Town of Chino Valley*—creates statutory rights to the use of groundwater and that those rights have been taken by the Arizona Supreme Court's interlocutory ruling in this case. That claim lacks merit. The Groundwater Management Act regulates the manner in which groundwater is managed once it has been identified, but it does not speak to the question whether particular water *is* groundwater (as distinct from surface water or subflow). Indeed, the statute specifically states that it "shall not be construed to affect decreed and appropriative water rights. Nothing in this chapter shall be construed to affect the definition of surface water in [Ariz. Rev. Stat. Ann.] § 45-101 and the definition of water subject to appropriation in § 45-141." Ariz. Rev. Stat. Ann. § 45-451.B (West 1994 & Supp. 2000). The statute is thus irrelevant to petitioners' claim that the Arizona Supreme Court has taken their property by defining as subflow that which was previously regarded as groundwater.

b. As petitioners recognize (Pet. 29), this Court has never directly addressed the question whether a state court's deviation from previously applicable property law principles can effect a taking that requires the payment of just compensation. Cf. *Corporation of the Presiding Bishop of the Church of Jesus Christ of the Latter-Day Saints* v. *Hodel*, 830 F.2d 374, 381 (D.C. Cir. 1987) ("The question of whether courts, as opposed to legislative bodies, can ever 'take' property in violation of the Fifth Amendment is an interesting and by no means a settled issue of law."), cert. denied, 486 U.S. 1015 (1988). The instant case does not provide an appropriate vehicle for resolving that question. Petitioners acknowledge (Pet. 28) that the Arizona Supreme Court in this case did not disavow any of its prior holdings, but instead articulated its decision as an application of existing precedents. As we explain below (pp. 14-16, *infra*), the state court's decision reflects a reasonable interpretation of that court's prior holdings. But in any event, this Court could reach the question "whether a radical departure by a state court from its prior precedents may constitute a taking" (Pet. 29) only if it first compared the decision below to prior Arizona Supreme Court water law rulings and concluded that a "radical departure" had in fact occurred. The need for that antecedent state-law inquiry is itself a substantial reason for this Court to deny review.

For other reasons as well, this case provides a poor vehicle for consideration of the federal question. As we have explained above (pp. 8-10, *supra*), the Arizona Supreme Court's decision is an interlocutory ruling that does not purport to quantify the water rights of any claimant. Because the decision does not resolve the claims either of petitioners or of any competing claimants, it cannot plausibly be thought to effect a taking

of any property in groundwater warranting an immediate federal remedy.[5] There is also a serious question whether any property could have been taken "for public use," within the meaning of the Fifth Amendment, by a judicial opinion that will be used not to arrogate property to the State, but instead as an articulation of legal principles to help in resolving the competing claims of parties to the use of water resources. See *Williams* v. *Adkinson*, 792 F. Supp. 755, 764 n.15 (M.D. Ala. 1992) (declining to find a judicial taking where the claim was that a state court improperly gave one party's property to another private party), aff'd, 987 F.2d 774 (11th Cir. 1993); *Corporation of the Presiding Bishop of the Church of Jesus Christ of the Latter-Day Saints* v. *Hodel*, 637 F. Supp. 1398, 1406-1407 (D.D.C. 1986) (same), aff'd, 830 F.2d 374 (D.C. Cir. 1987), cert. denied, 486 U.S. 1015 (1988).

c. In any event, the Arizona Supreme Court's decision in this case effected no radical departure from that court's earlier decisions. Petitioners emphasize that, under the Arizona Supreme Court's seminal decision in *Southwest Cotton*, the category of subflow should be "narrow" and should "[i]n almost all cases * * * [be] found within, or immediately adjacent to, the bed of the surface stream itself." Pet. 11 (quoting *Southwest Cotton*, 4 P.2d at 380-381) (petitioners' emphasis removed). But petitioners' description of *Southwest Cotton* omits the most relevant portion of that

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[5] Although petitioners contend (Pet. 26) that the Arizona Supreme Court's decision "must be subjected to an *ad hoc* factual inquiry to determine whether it has interfered with reasonable, distinct, investment-backed expectations regarding property interests in percolating groundwater," the current record before this Court is plainly insufficient to conduct such an inquiry.

decision: the test for determining what is subflow. As the Arizona Supreme Court recognized in *Gila River II*, *Southwest Cotton* established the following rule:

> *Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream?* If it does, it is subflow, and subject to the same rules of appropriation as the surface stream itself; if it does not, then, although it may originally come from the waters of such stream, it is not, strictly speaking, a part thereof, but is subject to the rules applying to percolating waters.

Pet. App. C13-C14 (quoting *Southwest Cotton*, 4 P.2d at 380-381). Petitioners do not mention that test, let alone explain how the Arizona Supreme Court's approval of the "saturated floodplain Holocene alluvium" as the subflow zone was inconsistent with it.

As the Arizona Supreme Court recognized in *Gila River II*, the decision in *Southwest Cotton* left certain "ambiguities and uncertainties" and "did not create an all-encompassing set of common law principles." Pet. App. C17, C25. Thus, while the court in *Gila River II* did not "redraw or erase th[e] line" drawn in *Southwest Cotton*, it refined the "direct and appreciable diminution" test to refer to criteria such as elevation, gradient, chemical makeup, and flow direction. *Id.* at C17, C24-C25. The superior court considered those criteria in adopting the "saturated floodplain Holocene alluvium" as the subflow zone. See *id.* at B54-B58. Petitioners do not contend that the trial court misapplied those factors.

Petitioners do argue that the subflow zone ultimately adopted by the superior court is inconsistent with the Arizona Supreme Court's rejection in *Gila River II*—a prior interlocutory decision in this same general

stream adjudication—of the "50%/90 day" test that the superior court had previously fashioned. They contend that the "saturated floodplain Holocene alluvium" is equivalent to the "younger alluvium," and that the Arizona Supreme Court in *Gila River II* rejected that zone as overly broad. Pet. 13 (quoting Pet. App. C26). As the passage quoted by petitioners indicates, however, the *Gila River II* court rejected the "50%/90 day" test not because of its potential breadth, but because it was arbitrary and because the superior court had failed to explain how the test comported with "the tests laid down in *Southwest Cotton*." Pet. 13 (quoting Pet. App. C26); see also Pet. App. A23 ("Our dissatisfaction with the 50%/90 day test in *Gila River II* stemmed largely from its arbitrary volume and time components, contrary to *Southwest Cotton*'s mandate."). In any event, any inconsistency between two interlocutory rulings of the same state court in the same case prior to final judgment is for that court to resolve. It presents no basis for review by this Court, especially at this stage, much less the sort of startling departure from *settled* rights or expectations that would give rise to a claim under the Just Compensation Clause.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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IN THE

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

UNITED STATES OF AMERICA, *et al.*,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE SUPREME COURT OF THE STATE OF ARIZONA

BRIEF IN OPPOSITION FOR RESPONDENTS THE SAN CARLOS APACHE TRIBE, THE TONTO APACHE TRIBE, AND THE YAVAPAI-APACHE NATION

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PARTIES TO THIS BRIEF IN OPPOSITION

Respondents, San Carlos Apache Tribe, Tonto Apache Tribe and Yavapai-Apache Nation ("Apache Tribes") are parties in "In Re The General Adjudication Of All Rights To Use Water In The Gila River System And Source," Consolidated Case Nos. W1-4.

The Apache Tribes are federally recognized pursuant to the Apache Treaty, July 1, 1852, 10 Stat. 979, and Section 16 of the Indian Reorganization Act of 1934, 25 U.S.C. § 461, *et seq*. The Reservations of the Tribes are all within their original aboriginal homelands under the Apache Treaty. *See United States v. Santa Fe Pacific Railroad Co.*, 315 U.S. 339 (1941); *New Mexico v. Mescalero Apache Tribe*, 462 U.S. 324, 337 (1983). *The Treaty of Guadalupe Hidalgo*, 9 Stat. 922, Feb. 2, 1848, the Apache Tribes were to be free and secure in their tribal homelands. *See*, Articles VIII, IX, XI, XXII.2.

A. The San Carlos Apache Tribe.

The San Carlos Apache Reservation ("the Reservation") was established by Executive Orders of President Grant on November 9, 1871, and December 14, 1872. There are approximately two thousand eight hundred and fifty-five (2,855) square miles within the current Reservation approximately (1,827,200 acres). The United States holds title to the lands within the Reservation in trust for the benefit of the San Carlos Apache Tribe. The Reservation is in Gila, Graham, and Pinal Counties in eastern Arizona. Tribal membership is approximately 12,000.

The Reservation is in the Upper Salt River, the Upper Gila River, and the San Pedro River "subwatersheds" of the Arizona General Stream Adjudication W-1 through W-4. Most major surface streams in central Arizona run through,

border, arise on, or are tributary to surface and underground water on the Reservation, including without limitation, the Black River, Salt River, the Gila River, Ash Creek, Willow Creek, Eagle Creek, Bonita Creek, Deer Creek, Salt Creek, and San Pedro River.

The San Carlos Apache Reservation is surrounded on three sides by federal land administered by the National Forest and Bureau of Land Management. The north boundary of the San Carlos Apache Reservation is the south boundary of the White Mountain Apache Reservation. The San Carlos and White Mountain Apache Reservations were once one, but later divided along the Black and Salt Rivers into the two separate Reservations which exist today.

The Gila River is the only stream with a Decree (Globe Equity No. 59) which purports to adjudicate certain rights on the San Carlos Reservation. That Decree provides only 6,000 acre-feet of water for 1,000 acres of irrigation along the Gila River in the San Carlos Apache Reservation, with a priority date of 1846. All residential, governmental, and commercial water use on the Reservation is from underground wells. There is no present substantial surface water use or development on the Reservation, with the exception of stockwatering, wildlife, and recreation.

B. Tonto Apache Tribe.

The Tonto Apache Tribe is a federally recognized Indian Tribe pursuant to P.L. 92-470, 86 Stat. 783, October 6, 1972. The Tonto Apache Tribe consists of over 100 members located on the Reservation of the Tribe which is 85 acres located south of Payson, Arizona in Gila County. One-half of the Reservation is in the upper Salt sub-watershed and one-half of the Reservation is in the upper east Verde sub-watershed of the Arizona General Stream Adjudication W-1 through W-4.

The Tonto Apache Reservation is surrounded on three sides by the Tonto National Forest and on the north by the Town of Payson. The Reservation has no surface water supply. The Tribe relies upon groundwater from a well which was developed by the United States to serve the Reservation. The parcel of land where the Tribal well is located was later traded into private ownership by the National Forest. To protect the Tribal water supply, federal deed restrictions were placed on the patent of property by the United States which prohibits the private owner from polluting the groundwater and from withdrawing groundwater from the land around the well site. Nearby pumping has reduced the production of the federal well which is now inadequate to meet the present needs of the Tonto Apache Reservation.

C. Yavapai-Apache Nation.

A Reservation was established by Executive Order on October 3, 1871, ten miles on both sides of the Verde River for forty-five miles, which Reservation was to serve as a permanent tribal homeland for both Tribes "as long as the grass shall grow and the stream shall flow." The Yavapai-Apache Nation has approximately 2,000 members.

In the late winter of 1875, both Tribes were forcibly removed from the Verde Valley in the "Trail of Tears." On April 23, 1875, the Reservation was terminated by Executive Order. Tribal members were forced through the snow nearly 180 miles to the San Carlos Reservation where they were incarcerated. Many men, women, and children perished on the way. Some escaped on route and returned to the Verde Valley. The remaining survivors walked back from San Carlos to the Verde Valley beginning In 1886. Many arrived after the start of construction of Roosevelt Dam at the confluence of the Salt River and Tonto Creeks In 1909. They were permitted to leave San Carlos to work on the Dam, and then returned home to the Verde Valley.

When the Tribes returned from San Carlos, either by escape or permission, they found their homes, farms and communities occupied or dominated by non-Indians. Nevertheless, the Tribal members persisted and established new camp and farm sites. Over a period of years a number of parcels of land occupied by Tribal members were acquired in trust either by the United States by statute, gift or exchange.

The Yavapai-Apache Reservation consists of several parcels of land totaling approximately 653 acres located In the Valley of the Verde River, Yavapai County, Arizona. Reservation parcels of land are located near Clarkdale, near Camp Verde, near Middle Verde, near Rimrock and at the I-17 interchange for the Montezuma Castle National Monument. Each parcel has a different acquisition date ranging from 1909 to 1974.

The Nation relies upon surface water from the Verde River for irrigation. It is totally dependent upon groundwater for all domestic, municipal and commercial purposes. Both surface water and groundwater are declining in the Verde Valley as a direct result of groundwater pumping in the Big Chino Valley, the Little Chino Valley near Prescott, Arizona, and pumping in the Verde Valley.

STATEMENT OF THE CASE

Arizona represented to the Court that all of the waters of the Gila River had been appropriated within the state prior to 1931. *Arizona v. California*, 283 U.S. 423, 462-3 n.14 (1931). "The Gila River System is over appropriated; the supply of water presently available and which seems likely to be available in the future is not sufficient to satisfy the needs and demands of existing projects." *Arizona v. California*, Report of the Special Master, December 5, 1960, p. 325; *see also In the Matter of the Rights to the Use of the Gila River*,

171 Ariz. 230, 232, 830 P.2d 442 (1992) ("*Gila River I*"), and *Globe Equity No. 59*, 920 F. Supp. 1444, 1448 (D. Ariz. 1996) ("*Globe Equity*").

The Gila River General Stream Adjudication began as an administrative proceeding in 1974 when Salt River Project filed a petition with the Arizona Land Department to determine the conflicting rights in the Salt River above Granite Reef Dam. In its present form the Gila River adjudication is a consolidated effort to achieve "a comprehensive general stream adjudication to determine 'the nature, extent and relative priority' of the water rights of all who use the water of a 'river system and source' . . . " with respect to waters within the Upper Salt, Verde, Upper Gila, Lower Gila, Agua Fria, Upper Santa Cruz and San Pedro watersheds. *See In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 195 Ariz. 411, 989 P.2d 739, 742 (Ariz. 1999) ("*Gila River III*").

In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source, 198 Ariz. 330, 9 P.3d 1069 (2000) ("*Gila River IV*") is the fourth case decided by the Arizona Supreme Court in Arizona's general stream adjudications within the context of six special interlocutory issues certified for review by the Arizona Supreme Court.[1]

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1. *In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 171 Ariz. 230, 830 P.2d 442 (1992) ("*Gila River I*"); *In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 175 Ariz. 382, 857 P.2d 1236 (1993) ("*Gila River II*"); *Gila River III*; *Arizona v. San Carlos Apache Tribe of Arizona*, 463 U.S. 545 (1983); and *United States v. Superior Court*, 697 P.2d 658 (1985). *See* Appendix to Petitions, Appendix D, pp. D1 and D2, the Arizona Supreme Court's "Orders Concerning Petitions for Interlocutory Review" filed December 11, 1990, which designated the six Interlocutory Issues for review by the Arizona Supreme Court, including Interlocutory Issue Two decided in *Gila River IV*; and the Arizona Supreme Court's "Special Procedural Order Providing for Interlocutory Appeals and Certifications" dated September 26, 1989, Phelps Dodge Petition, Appendix E.

Petitioners have requested the Court to review the effect of Interlocutory Issue Two as decided in *Gila River IV*.[2]

SUMMARY OF ARGUMENT

Gila River IV follows the Court's decision in *Arizona v. San Carlos Apache Tribe of Arizona*, 463 U.S. 545 (1983) ("*San Carlos*"), where the Court decided, *inter alia*, that the McCarran Amendment provides state courts with jurisdiction to adjudicate Indian water rights in "comprehensive general stream adjudications".

The Court has observed the hydrologic reality that pumping of underground water sources ("subflow") can deplete surface water, as the Arizona court did in *In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 175 Ariz. 382, 857 P.2d 1236 (1993) ("*Gila River II*"). *See San Carlos*. Therefore, those who claim the right to pump from underground water sources, which may interfere with federal reserved water rights or state water rights of prior appropriation, must be included in a "comprehensive" adjudication of all water rights *inter sese* in the Arizona General Stream Adjudication.

Gila River IV is a decision concerning state water law and property rights to water by the highest court in Arizona, over which the Arizona Supreme Court has "binding authority". *See San Carlos* at 561.

The Petitioners present a question which is abstract in nature. They present no case or controversy. They seek an advisory opinion from the Court. No water rights have been decided in the Arizona general stream adjudication. Thus, no decision has been made by an Arizona court which presents a factual predicate for review. The status of water rights in Arizona

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2. Interlocutory Issue Two relates to what underground water is "appropriable" under A.R.S. § 45-141. *See* Petition, Appendix D.

has been established through the Arizona courts. No sudden change has occurred in that status.

Over the years the Arizona courts have more carefully defined that status. Technical advances have enabled the Arizona courts to determine the meaning of subflow from a reliable scientific standpoint. Before the advent of this kind of technology, surface appropriators rarely could meet their burden of proof in showing that pumping from underground water sources was depleting the in-stream flows. Now, however, surface water appropriators have the technology to prove the elements of the holding in *Maricopa County Municipal Water Conservation Dist. No. One v. Southwest Cotton Co.*, 39 Ariz. 65, 4 P.2d 369, 377 (Ariz. 1931) ("*Southwest Cotton*"). They should be permitted to do so.

ARGUMENT

The Apache Tribes[3] respond to the Petition filed by Phelps Dodge and Arizona Public Service Company.[4]

Eighteen years after the Apache Tribes were before this Court in *San Carlos*, not a single water right has been

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3. Undersigned counsel has represented the Apache Tribes since 1974 in these matters and was designated by the Arizona Supreme Court as lead counsel to represent Arizona Indian tribes in *Gila River II*. *See* also *Gila River I* (Interlocutory Issue 1) (trial court procedures approved, including service by mail); *and Gila River III* (Interlocutory Issues 4 and 5), *cert. denied*, 530 U.S. 1250, 120 S. Ct. 2705 (2000).

4. *See* Petitions for Writ of Certiorari filed by, *Phelps Dodge Corporation, et al. ("Phelps Dodge) v. United States, et al., No. 99-1388; and Phelps Dodge, et al. v. United States, et al.*, No. 00-1464. Phelps Dodge and the Arizona Public Service Company ("*APS*") petition seeks review by this Court of Interlocutory Issue Two decided by the Arizona Supreme Court regarding the characterization of appropriable underground water "subflow" by that court.

adjudicated in the Arizona stream adjudication, and none are threatened to be adjudicated in the foreseeable future.[5]

The Apache Tribes appeared and have faithfully participated in the Arizona proceedings. *See San Carlos* at 545 n.17. As instructed by the Court in *San Carlos*, the Arizona courts have thus far honored the "solemn obligation to follow federal law." *Id.* at 571.

The Court has long recognized that pumping from "underground water sources" can "materially" deplete "usable" stream flow, *Kansas v. Colorado*, 514 U.S. 673; 115 S. Ct. 1733; 131 L. Ed. 2d 759 (1995) ("*Kansas v. Colorado*"), and other surface water supplies *Cappaert v. United States*, 426 U.S. 128, 48 L. Ed. 2d 523, 96 S. Ct. 2062 (1976) ("*Cappaert*"), sometimes at great distances.[6] *See also Arizona v. California*, 376 U.S. 340, 347-349, 350, 11 L. Ed. 2d 757, 84 S. Ct. 755 (1964) ("the Gila River and its underground water sources").

In *Cappaert* this Court found that ". . . the evidence showed the [g]roundwater and surface water are physically interrelated as integral parts of the hydrologic cycle." *Id.* at 142. On the Pecos River, the Court observed that "If development in New Mexico were not restricted, especially the ground water pumping near Roswell, no water at all might reach Texas in many years." *Texas v. New Mexico*, 462 U.S. 554, 557, 103 S. Ct. 2558, 77 L. Ed. 2d 1 (1983).[7]

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5. Moreover, there has been no adjudication of any federal or state water rights in Arizona at anytime during the last 27 years, since the first general stream adjudication proceeding was initiated in 1974.

6. "2 ½ miles from Devils Hole", *Cappaert* at 426 U.S. 128, 133, approximately 205 miles "Pueblo, Colorado to Garden City, Kansas" *Kansas v. Colorado* at 677.

7. *Id.* at 557 n.2 "The nonflood "base" flow of the Pecos below Alamogordo Dam is supplied to a large part by groundwater aquifers

(Cont'd)

The Arizona Supreme Court ruled that the adjudication of the "Gila River and its sources" included its "underground water sources." *See San Carlos*. Petitioners contest the holding of Arizona's highest court, which has recognized this hydrologic connection under Arizona state law. The Arizona decision which requires those who pump from the underground water sources of the Gila River, classified as "subflow", to participate in the *inter sese* adjudication of their claims in the Arizona general stream adjudication.

Petitioners argue here that the Supreme Court of Arizona has created a new definition of "subflow" as it applies to Arizona's system of prior appropriation, and that the decision constitutes a "sudden and unpredictable" definition and results in a taking of vested property rights to groundwater. As argued in Point C, *infra*, there is no vested property right to groundwater under Arizona law.

Arizona's groundwater law already defies hydrological reality. *See United States v. J. Ed Smith*, 625 F.2d 278, 280 (9th Cir. 1980) at n.3. It is based upon an "artifice . . . that rests on a hydrologic misconception." *Gila River III* at 743. The Arizona Supreme Court observed that "conforming their law to hydrological reality, most prior appropriation jurisdictions by now have abandoned the bifurcated treatment of ground and surface water supplies." *Id* at 744. Arizona has not. *See also Gila River II*, 857 P.2d at 1240.

The Arizona Supreme Court by choice has not abandoned this bifurcated system largely due to the fact that the system

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(Cont'd)
that empty into the river in the reach between Acme and Artesia, N.M. The operation of these aquifers is little understood. They are depleted by pumping from wells in the Roswell area, and there is some suggestion that at times heavy groundwater pumping in the area around Roswell may actually reverse the direction of flow of the underground aquifer, so that water flows away from the river."

defining subflow as part of an appropriable stream "serves to protect appropriable surface water rights against interference caused by the pumping of groundwater". *See Gila River IV* at 1073-4 (2000). Surface water "prior appropriation" rights are the foundation of both agricultural and municipal development in Arizona. Appropriated water is a vested property right in Arizona, whereas groundwater pumping of "percolating" water is not.[8] Respondents are aware of no cases which would allow a person to defeat a "prior appropriation" right by merely drilling a well.

The Arizona Supreme Court ruling contested by Phelps Dodge and APS requires pumpers of underground water of the Gila River to participate in the adjudication as is necessary to avoid piecemeal adjudication.[9] At this point in the Arizona proceedings, the holdings of the Arizona Supreme Court merely assure that the state groundwater pumpers are on notice and are participating in the adjudication as is necessary to preserve the comprehensive requirements of the McCarran Amendment and to avoid piece-meal adjudication. *Colorado River Water Conservation District v. United States*, 424 U.S. 800, 813 (1976) ("Colorado River"). *Gila River I.* Without including pumpers of underground water sources, who may interfere with the flow of the Gila River, the General Stream Adjudication will not be a "comprehensive" adjudication of all the rights to the Gila River System and Source as contemplated by the Court and Congress.

In *San Carlos*, the Apache Tribes complained to the Court, *inter alia*, that under the McCarran Amendment, 43 U.S.C. § 666, the Arizona stream adjudication would not constitute a comprehensive judicial proceeding, because it failed to include claimants who pump from underground sources which

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8. *See San Carlos Apache Tribe et al. v. Superior Court of Arizona*, 193 Ariz. 195,189, 972 P.2d 179 (1999).

9. *Moses H. Cone Hospital v. Mercury Construction Corp.*, 460 U.S. 1, 16 (1983).

threatened the streams, springs and underground water sources upon which the Apache Tribes were dependent for present and future uses.

The Court found that the McCarran Amendment reflected "a clear federal policy" of avoiding "piecemeal adjudication of water rights in a river system," and that federal law would protect Indian water rights in state court, and that state court decision could be reviewed by the Court "after final judgment" of the State Court. *San Carlos* at 552,

> State courts, as much as federal courts, have a solemn obligation to follow federal law. Moreover, any state-court decision alleged to abridge Indian water rights protected by federal law can expect to receive, if brought for review before this Court, a particularized and exacting scrutiny commensurate with the powerful federal interest in safeguarding those rights from state encroachment.

Id. at 571.

The Petitioners complain now that the Arizona Supreme Court has ruled that these Petitioners, and others, who pump water from wells which may impact the water rights under Federal law, or surface rights under State law, A.R.S. § 45-141, *et seq.*, must appear and adjudicate their claims to water *inter sese* in the comprehensive stream adjudication.

The Arizona Supreme Court has determined that appropriable water includes certain hydrologically connected underground water sources of river subflow under state law. Petitioners present no federal question as to the definition of subflow presents itself to this Court. Because the Arizona Supreme Court has ruled on this issue, this Court should defer to the decision of Arizona's highest court on issues of state law.

The groundwater pumpers have no reasonable investment backed expectations in pumping groundwater located in the subflow zone as clarified in *Gila River IV*. Petitioners' argument is based on their own interpretation of the meaning of subflow from *Southwest Cotton* while ignoring the warnings of the court in that and other cases. Property rights cannot be created in the minds of individuals. They must be created and recognized by the law. Petitioners are attempting to assert a property right that does not exist. For these reasons, their Petition for Writ of Certiorari should be denied.

REASONS FOR DENYING THE WRIT

A. The Court Lacks Jurisdiction.

1. 28 U.S.C. § 1257(a) Does Not Authorize the Jurisdiction of This Court.

a. No State Law is Questioned by the Petition for Writ of Certiorari.

Petitioners allege that this Court has jurisdiction pursuant to 28 U.S.C. § 1257(a).[10] The statute specifically states that

> Final judgments or decrees rendered by the highest court of a State in which a decision could be had, may be reviewed by the Supreme Court by writ of certiorari . . . where the validity of a statute of any State is drawn in question on the ground of its being repugnant to the Constitution, treaties, or laws of the United States . . .

28 U.S.C. § 1257(a).

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10. *See* Petition, p. 2.

Petitioners allege that the State statutory provision involved in this Petition is Arizona Revised Statutes (A.R.S.) § 45-141.A, which states:

> The waters of all sources, flowing in streams, canyons, ravines or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to appropriation and beneficial use as provided in this chapter.

However, this State statute is not the subject of the Petition for Writ of Certiorari at all. Petitioners are presenting the question of whether or not a judicial decision can constitute a taking of property. The validity of A.R.S. § 45-141.A. is not being called into question by Petitioners and thus, the Court should not accept jurisdiction on this ground.

2. The Question Presented Is Not Ripe For Adjudication.

A question presented to the United States Supreme Court must be ripe for adjudication. Ripeness insures that the Court will make a reliable decision and avoid "premature adjudication". *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission*, 461 U.S. 190 (1983). "Determination of the scope and constitutionality of legislation [or judicial opinions] in advance of its immediate adverse effect in the context of a concrete case involves too remote and abstract an inquiry for the proper exercise of judicial function." *International Longshoreman's & Warehousemen's Union, Local 37 v. Boyd*, 347 U.S. 222 (1954).

Robinson v. Ariyoshi, 753 F.2d 1468, 1471 (9th Cir. 1985) held that a case or controversy existed for the district court to hear regarding the change in Hawaiian property law as announced by the Hawaii Supreme Court in *Robinson v.*

Ariyoshi, 441 F. Supp. 559 (D. Haw. 1977). The Court granted certiorari in the case, vacated the judgment of the Ninth Circuit and remanded the case for further consideration in light of *Williamson County Regional Planning Commission v. Hamilton Bank* (hereafter "*Williamson*"), 473 U.S. 172 (1985). *See Robinson v. Ariyoshi*, 477 U.S. 902, 106 S. Ct. 3269 (1986). *Williamson* held that the takings question regarding various zoning regulations in Tennessee was premature and not ripe for adjudication

> [b]ecause respondent has not yet obtained a final decision regarding the application of the zoning ordinance and subdivision regulations to its property . . . As the Court has made clear in several recent decisions, a claim that the application of government regulations effects a taking of a property interest is not ripe until the government entity charged with implementing the regulations has reached a final decision regarding the application of the regulations *to the property at issue. Id.* at 186. [Emphasis added].

Although *Williamson* pertains to zoning regulations, this Court in *Robinson v. Ariyoshi*, 477 U.S. 902, utilized *Williamson* to remand the case for further consideration. Thus, even the question of a judicial taking must allege harm to the specific land or well, in question. In the matter now pending before the state court, there is no "particularized" concrete injury as to any of Petitioners' wells at this time.

The Petitioners present no case or controversy that is ripe for adjudication by this Court. While the method of determining subflow is a final judgment of the Arizona Supreme Court, the issue of whether or not the determination of subflow by the Arizona Supreme Court is a taking as to a specific well is not ripe. The next step in the complex Gila River General Stream Adjudication is to determine whether or not wells located in or near the saturated floodplain alluvium are actually pumping

subflow in derogation of the vested property rights of prior appropriators on the Gila River. No final determination has been made by an Arizona court as to whether any well is actually pumping appropriable surface water. Until such time as a determination is made as to the Petitioners' wells, Petitioners cannot allege a "particularized injury" or taking, even assuming that they had a vested property right to groundwater.[11] Phelps Dodge and APS do not allege and cannot show any harm or injury in fact which has been caused by the Arizona Supreme Court's opinion in *Gila River IV*.

Phelps Dodge and APS are seeking an advisory opinion from the United States Supreme Court. The Court should decline discretionary certiorari review in this matter, where further Arizona state court proceedings will present a clean-cut and concrete question after Petitioners' wells have been adjudicated. *Rescue Army v. Municipal Court of Los Angeles*, 331 U.S. 549 (1947); and *Minnick v. California Department of Corrections*, 452 U.S. 105 (1981).

3. No Constitutional Takings Question is Presented.

28 U.S.C. § 1257(a) also confers jurisdiction on this Court for matters "where any title, right, privilege, or immunity is specially set up and claimed under the Constitution . . ." Petitioners allege that their property rights to groundwater have been violated in contradiction to the Fifth Amendment to the United States Constitution which prohibits the taking of private property for public use without just compensation.

Petitioners' claim that groundwater is a vested property right is incorrect under the long standing statutory and common law of the State of Arizona, which is incorrect.

11. The issue of a judicial taking is simply not ripe in this case because, as *Williamson* states, "those factors simply cannot be evaluated until the administrative agency [or judiciary] has arrived at a final, definitive position regarding how it will apply the regulations at issue to the particular land in question." *id.* at 191.

See Point C, *infra*. Without a property interest, Petitioners cannot properly allege a taking and this Court should therefore not accept jurisdiction.

4. No Compelling Reason Exists for Granting the Petition for Writ of Certiorari.

Rule 10 of the Rules of the Supreme Court of the United States, allows a Petition for Writ of Certiorari to be granted "only for compelling reasons". Petitioners claim that the Court should grant the Petition because the state court has decided an important question of federal law pursuant to Rule 10(c).[12] The Arizona Supreme Court in *Gila River IV* decided a purely state common law issue regarding the definition of subflow. In order for this Court to decide whether or not a taking has occurred in violation of the Fifth Amendment to the Constitution, this Court would have to overrule the state common law that no vested property right exists to groundwater in Arizona. The Arizona Supreme Court is clear on this issue, however No property right to the potential, future use of groundwater exists in Arizona. *See* Point C, *infra*. Because the Arizona courts have already decided this common law issue, the subsequent ruling in *Gila River IV* that the determination of subflow is not a taking of any purported groundwater property rights was entirely appropriate. Thus, no federal question or compelling justification exists for accepting the Petition for Review.

Petitioners also allege that the Arizona Supreme Court "rejected the Petitioners takings arguments without any analysis of [the United States Supreme Court's] precedents concerning the takings clause of the Fifth Amendment, and it did so in a way that clearly conflicts with those precedents." *See* Petition, p. 10. The Arizona Supreme Court dispensed with an in depth takings analysis because under Arizona common law, " a well owner does not own underground water", *Town of Chino Valley v. City*

12. *See* Petition, p. 10.

of Prescott, 131 Ariz. 78, 82, 638 P.2d 1324, 1328 (1981), and because landowners have 'no legally recognized property right in potential, future groundwater use,' *Gila River I*, 171 Ariz. at 239, 830 P.2d at 451, the constitutional argument is substantively without merit." *Gila River IV* at 344. No reason existed for the Arizona Supreme Court to develop a takings analysis because the crucial element of property for that analysis does not exist.

B. The Previous Decisions of Arizona Courts Regarding Subflow Conform with the Decision of the Arizona Supreme Court *Gila River IV* and Do Not Constitute a Sudden Change in Arizona Law.

In *Southwest Cotton*, the Arizona Supreme Court began to define subflow under the common law of Arizona. "The real question involved [in *Southwest Cotton*] is the law applicable to the relative rights to the ownership and use of the subterranean waters of the state as against those of surface waters." *Id.* at 70. The plaintiffs in *Southwest Cotton* argued that percolating waters were subject to appropriation and that the waters to which they claimed an appropriative right were, "on the contrary, subterranean waters running in channels with well-defined and known banks, and therefore of the class of waters admittedly subject to appropriation under the law of Arizona." *Id.* at 84. The court first held that percolating groundwater, the groundwater which is not part of the natural stream or its subflow, is not appropriable under state law. *Id.* at 79. The court then went on to define subflow. For underground waters to be classified as subflow, according to *Southwest Cotton*, they must meet certain standards. Those standards require that the subsurface waters have "substantially like characteristics with surface water". *Id.* at 86. *See also Howard v. Perrin*, 200 U.S. 71, 26 S. Ct. 195 (1906); *Pima Farms Co. v. Proctor*, 30 Ariz. 96, 245 P. 369.

The characteristics of surface water were discussed in *Southwest Cotton*. Those characteristics are a channel, consisting of a well-defined bed and banks, and a current.[13] Current, according to *Southwest Cotton*, exists where "the water has a natural motion or current" as opposed to a pond or lake with water that is substantially at rest. *Id.* at 87. Therefore, if subsurface water has substantially the same characteristics as a defined bed and banks and current, it is considered subflow and is appropriable in Arizona.

The court in *Southwest Cotton* defined the test for subflow as the subsurface water that is in or immediately adjacent to a surface stream and possesses characteristics substantially similar to that of surface water. *id.* at 100-01. Unfortunately, this test is not very defining at all because the term "immediately adjacent to" is an abstract concept, particularly in light of the discussion in *Southwest Cotton* which provides guidance as to how subflow may be legally proven. The court states that:

> While surface indications such as trees, shrubs, bushes and grasses growing along the course and topographical features of the surface are the simplest and surest methods of proof, we think they are by no means exclusive. Other methods may be used, such as a series of wells or borings, tunnels, the color and character of the water, the sound of the water passing underneath the earth, the interruption of the flowing of other wells on the line of the alleged subterranean stream, geologic formation, and perhaps others.

Id at 87.

The burden of proving whether or not a well is pumping appropriable subflow lies with the asserting party wherein pumping is alleged to interfere with the property rights of surface water appropriators. *Id.* at 85.

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13. *See* discussion in *Southwest Cotton*, at 87.

Petitioners contend that *Southwest Cotton* clearly defines subflow and that Arizonans have reasonably relied on that holding when drilling and pumping from their wells. Petitioners are incorrect in their assertion. Petitioners and others have only relied on their own interpretation of what *Southwest Cotton* meant to them when drilling their wells and pumping subsurface water. If any doubt is raised at to whether or not *Southwest Cotton* clearly defines the location of subflow once and for all, the warning of the Arizona court in the following conclusion of the case should clarify this understanding.

> Subterranean waters are necessarily more or less uncertain as to their very existence, and frequently incapable of an immediate demonstration of the results of their appropriation of such a nature that investors may safely stake their funds and farmers their future on the success of the project. If percolating waters are subject to the law of prior appropriation, and if appropriations of other subterranean waters may be established by mere surmise, inference or possibility, the field is open to interminable and uncertain litigation from which none will profit in the end but members of the legal profession, and there will in all probability be a complete cessation of extensive development work, due to the impossibility of ascertaining in advance just what rights will be acquired thereby. It may be said that this rule means an end to all future large pumping projects. If these projects are based on the depletion of surface waters, it is far more economical both in money and water, and thus better for the state as a whole, that those surface waters be utilized through surface developments, as they doubtless will be when necessity arises. If, on the other hand, they are based on a use of water which will not affect surface developments, past or future, there are other principles of law, not necessary for the determination

> of this case, which properly applied, will do justice to the state and to its individual citizens alike. While it may be, and doubtless is, true that the effect of the declaration of public policy made by our legislature so long ago will be to lessen somewhat the number and size of future irrigation projects depending upon pumped water, in our opinion it is more than compensated by the establishment of certainty and security for the vastly more important surface water projects now existing, and which will doubtless exist in the future.

Id. at 105.

Although the *Southwest Cotton* court projected that future pumping activities would be reduced by its holding which placed a higher priority on surface water, groundwater pumpers did not heed the court's warning that subflow exists and is subject to prior appropriation.

Over the past 70 years, and particularly since World War II, technological advances have provided the means whereby pumping, even from distant locations can interfere with the surface flow of a stream through an enlarged cone of depression created by the intensive pumping from a well. The more powerful the pump on a well, the larger the cone of depression and the more likely that the pump is reaching into the subflow zone.

The Gila River General Stream Adjudication was initiated to determine the relative rights of all appropriators of surface water on the Gila River. It is alleged in the adjudication that groundwater pumping is causing the depletion of both the surface waters and subflow in the Gila River in derogation of the rights of those parties who have appropriated waters from the Gila River. Before the court in the adjudication could decide whether or not unlawful pumping of subflow is occurring, it was necessary to more clearly define the meaning of subflow

in sound principles of hydrology. *Southwest Cotton's* definition of bed, banks and immediately adjacent to the river, was not enough information to make that definition. Because of advances in geology and hydrology, the Arizona Supreme Court, was able to define subflow in a way that is completely consistent with the definition in *Southwest Cotton*. If the groundwater pumpers had actually heeded the warnings of *Southwest Cotton* and ceased such speculative pumping activities, the holding in *Gila River IV* would clearly have been a win for the groundwater pumpers in that they could now move forward with greater certainty that they were not interfering with property rights to surface waters. They did not heed those warnings. Petitioners now seek to avoid the ultimate adjudication of their interference with prior appropriative property rights to surface water.

Petitioners claim that 38% of the total wells in the San Pedro River Basin are in the trial court's subflow zone. *See* Petition, p. 1. The reason that such a high percentage of these wells are located in this zone is because that is where the water is most available. Pumping subflow is much easier than pumping groundwater. Petitioners are very sophisticated. They had no right to rely on the future availability of water they pumped.

The *Gila River IV* court was careful to follow its own precedent in *Southwest Cotton*.[14] In *Gila River II*, the Arizona Supreme Court held that the trial court had erred "in adopting its 50%/90 day test for determining whether under ground water is 'appropriable' under A.R.S. § 45-141." *Gila II*. at 386. The *Gila River II* court held that lower court erred in using the 50%/90 day test which evaluates whether or not a particular well is pumping subflow if "the volume of stream depletion would reach 50% or more of the total volume pumped during . . . [a] period of withdrawal [that] is equivalent to 90 days of continuous pumping for purposes of technical calculation." *Id.* at 385. The reason for this error, the Arizona Supreme Court

14. *See Southwest Cotton* at 334-7.

stated, is that the 50%/90 day test expanded and changed the holding in *Southwest Cotton* because it "did not distinguish between wells pumping groundwater from tributary aquifers [which are not subject to prior appropriation] and those pumping actual subflow of the river." The 50%/90 day test effectively expanded the definition of subflow that was "broad enough to include all underground water hydraulically connected to a surface stream." In Arizona, in almost all cases, subflow is those waters which are generally "found within, or immediately adjacent to, the bed of the surface stream itself." *Gila River IV* at 335 (quoting *Southwest Cotton* at 97). Tributary subsurface water is not included in the definition of subflow and the 50%/90 day test failed to account for this precedent as defined by *Southwest Cotton.*

The Arizona Supreme Court in *Gila River IV* went on to say that "[w]hether a well is pumping subflow does not turn on whether it depletes a stream by some particular amount in a given period of time. . . . [I]t turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium." *Gila River IV* at 336 (quoting *Gila River II* at 392). Although the *Southwest Cotton* test asks whether or not "drawing off the subsurface water tend[s] to diminish appreciably and directly the flow of the surface stream. . .", the *Southwest Cotton* court also required that this drawing off be from the subflow zone of the stream only. The *Gila River IV* court finally resolved this requirement by defining the subflow zone using the evidence of several hydrological and geological specialists.[15] The particularized analysis of whether or not pumpers are drawing off subflow from the surface stream is, as stated before, the next step in the adjudication.

The *Gila River IV* test for subflow fits squarely with the precedent set in *Southwest Cotton*. No sudden change in

15. *See Gila River IV* at 336-7 for discussion of extensive testimony involved in the "subflow" determination.

precedent has occurred at all in this litigation and Petitioners have no sufficient reason to challenge the holding as being a change in precedent, let alone a sudden and unpredictable change.

C. The Holding in *Gila River IV* Does Not Destroy Vested Property Rights to Groundwater Because the Potential, Future Use of Groundwater is Not a Vested Property Right Under Arizona Law.

The Arizona court's definition of subflow does not constitute a taking of property rights to present or future pumping of groundwater. Petitioners cannot claim a taking where there is no property right to potential, future use of groundwater and their investments in groundwater pumping are not reasonable investment decisions in light of the holding in *Southwest Cotton*, subsequent Arizona opinions and the Constitution of the State of Arizona.[16]

Petitioners urge the Court to find that the Arizona Supreme Court's decision in *Gila River IV* that "landowners have 'no legally recognized property right in potential, future groundwater use' " constitutes an unconstitutional change in judicial precedent. *See* Petition, App. A33. First, this is a decision of Arizona law by Arizona's highest court. Second, Petitioners are incorrect in their assertion. Groundwater in Arizona, when it is in the ground, is not a property right. "The right of the owner of the land overlying groundwater is simply to the 'usufruct of the water' and that percolating waters are 'like wild animals, free to roam as they please and are the property of no one'." *Cortaro Water Users' Association v.*

16. *See Southwest Cotton; Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953); *Town of Chino Valley v. State Land Dept.*, 119 Ariz. 243, 580 P.2d 704 (1978) ("*Chino Valley I*"); *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 638 P. 2d 1324 (1981) ("*Chino Valley II*"); *Cortaro Water Users' Association v. Steiner*, 148 Ariz. 314, (1986) ("*Steiner*"); The Constitution of the State of Arizona, art. 17, § 1.

Steiner, 148 Ariz. 314, 319, 714 P.2d 807 (1986) (*"Steiner"*) (quoting *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 82, 638 P.2d 1324, 1328 (1981) (*"Chino Valley II"*). "By the Constitution of Arizona art. 17, § 1, effective at statehood in 1912, it was provided that the common law doctrine of riparian water rights 'shall not obtain or be of any force or effect in the State' ". *Chino Valley II* at 1326. "Waters percolating beneath the soil were not included among those subject to appropriation." *Id.*

Arizona has adopted the common law doctrine of reasonable use for underground waters. "Under the doctrine of reasonable use property owners have the right to capture and use the underground water beneath their land for a beneficial purpose on that land * * *". *Chino Valley II* at 1328 (*quoting Chino Valley I* at 248). According to the court in *Chino Valley*, "[t]his statement we think is supported by the better reasoned decisions in this country. In the absolute sense, there can be no ownership in seeping and percolating waters until they are reduced to actual possession and control by the person claiming them because of their migratory character." *id.* at 1328.

Petitioners confuse the fact that water, after it is withdrawn from a well, like a wild animal, becomes property. The right to chase the animal is not property. And the "claim" to groundwater for use before it is captured is not property. *See* Petition, p. 20. In Arizona, groundwater pumpers cannot enjoin another local pumper from pumping groundwater that is free to roam so long as the water is put to a reasonable use, because no property right to the groundwater exists at that point.[17] The Arizona

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17. *See Bristor* at 179, which quotes the Restatement of Law of Torts, Volume IV, Chapter 41, Topic 4, Page 387, Section 860 which says:

> A possessor of land who, in using the subterranean water therein, intentionally causes a substantial harm to a possessor of other land through invasion of the other's interest in use of subterranean water in his land, is liable to the other if, but only if, the harmful use of water is unreasonable in respect to the other possessor.

Supreme Court in *Gila River I* and *Gila River IV* was correct in its statement that there is "no legally recognized property right in potential future groundwater use." *Gila River IV* at 1083 (quoting *Gila River I* at 451.)

Petitioners quote *Bristor v. Cheatham ("Bristor")*, 75 Ariz. 227, 255 P.2d 173 (1953) in support of their position that potential, future groundwater use is a property right. *See* Petition, p. 21. The Petitioners assert that the doctrine of reasonable use is a rule of property that protects future groundwater use.

Petitioners misguide the Court. *Gila River IV* determines what is appropriable surface water. It does not apply to groundwater, whatever the status may be. However, in *Bristor*, the Arizona Supreme Court held that groundwater users "have no protection except that offered by the common law as enunciated in *Howard v. Perrin*, 8 Ariz. 347, 76 P.2d 460 (1905), and subsequently approved in *Maricopa County Municipal Water Conservation District No. 1 v. Southwest Cotton Co.*, supra." *Bristor* at 234. The common law that is referred to in *Bristor* is the reasonable use rule. The doctrine of reasonable use does not create a property right to future groundwater use, nor does it create a right to deplete surface flow. Petitioners failed to disclose to the Court the most critical restriction on the rule.

> . . . but it does prevent the withdrawal of underground waters for distribution or sale for uses not connected with beneficial ownership or enjoyment of the land whence they are taken, if it thereby result that the owner of adjacent or neighboring land is interfered with in his right to the reasonable user of subsurface water upon his land, *or if his wells, springs, or streams are thereby materially diminished in flow* or his land is rendered so arid as to be less valuable for agriculture, pasturage, or other legitimate uses."

Bristor at 237-8 [Emphasis Added].

The court in *Gila River IV*, by ruling that there is no property right to potential, future groundwater use, followed the precedents set in its earlier opinions cited above and the Constitution of the State of Arizona. This affirmation by the Arizona court neither constitutes a sudden and unpredictable change in Arizona common law as Petitioners argue, nor does the holding in *Gila River IV* encroach on any right of groundwater pumpers to pump and use groundwater pursuant to the reasonable use doctrine. The *Gila River IV* holding merely requires those pumpers who are likely pumping subflow that is interfering with the vested rights of a beneficial user of appropriable surface water to appear in the Gila River Adjudication according to the holding in *Bristor* above. Petitioners have no "reasonable" claim in asserting an unrestricted property right to potential future groundwater use that interferes with vested property rights.

Petitioners also argue that the Arizona legislature has created numerous statutory rights to the future use of groundwater. *See* Petition, p. 22. Petitioners are once again incorrect.

The Arizona legislature, in passing the Groundwater Management Act, merely regulated the "race to bedrock" in the use of groundwater in Arizona, particularly in the Active Management Areas ("AMAs"), which are areas where groundwater resources are most threatened. These areas are typically areas of high population concentration. *See* A.R.S. § 45-411, *et seq*. The Act permits the preservation of certain types of groundwater pumping as grand fathered rights, such as for irrigation purposes. *See* A.R.S. § 45-461, *et seq*. These rights allow groundwater pumpers to continue to withdraw groundwater for certain identified uses that have occurred in the past. However, this "grandfathering" of groundwater for certain uses does not guarantee that there will be any water available for them to pump, as Petitioners seem to assert. It merely allows historic types of use to be continued

into the future so long as the groundwater user can capture the "roaming" groundwater below. No property right to the future use of groundwater could be reasonably found from the Groundwater Management Act passed by the Arizona legislature as Petitioners assert. *See* Petition, p. 23. Certainly, no right was created by the legislature for groundwater pumpers to interfere with prior appropriative surface water rights.

Petitioners assert that several other sections of the Groundwater Code create and recognize property rights in the potential future use of groundwater. Petitioners incorrectly assume that a statutory authorization to acquire permits to drill wells, creates a property right to the groundwater that is not yet captured.

The non-property status of groundwater in Arizona has also been affirmed by the Ninth Circuit Court of Appeals in *Cherry v. Steiner*, 716 F.2d 687 (1983) ("*Cherry II*"). Plaintiffs in that case alleged that the enactment of the Arizona Groundwater Management Act of 1980 violated their use and enjoyment of the water beneath their property to which they asserted a property right. The United States District Court for the District of Arizona held that prior decisions of Arizona courts did not establish a proprietary interest in groundwater, and that *Chino Valley II* was not a radical departure from prior law, and thus does not violate property rights. *See Cherry v. Steiner*, 543 F. Supp. at 1277 (1982) ("*Cherry I*"). In affirming the Federal District Court holding, the Ninth Circuit has both affirmed that no property right exists to groundwater in Arizona, both under *Cherry I*, *Cherry II* and *Chino Valley II*.

The Arizona Supreme Court reviewed state law and the history of the depletion of flowing streams and groundwater in Arizona, and determined that State law is inadequate to protect federal rights where those who pump from underground water sources ("subflow") of the Gila River are depleting stream flows that are necessary to fulfill the purposes for which federal

reservations were established. *See Gila III*. In the present case, the Arizona court has defined pumping which interferes with state surface water rights. This Court honors the decisions of the States' highest court when interpreting state law.[18]

Because the right to potential future groundwater use is not guaranteed in Arizona, no property right can exist to that groundwater. The only right groundwater users have to groundwater is the right to attempt to capture that water and put it to some kind of reasonable use. Arizona has a long established system where surface water rights are the most certain property rights through prior appropriation and beneficial use, and are constitutionally protected. Groundwater rights, however, are subject to reasonable use and are not vested property rights. *See Southwest Cotton*. For an Arizona court to hold otherwise, would suddenly and unpredictably change the status of all water rights in Arizona. Petitioners' arguments regarding the status of the future and potential use of groundwater as a property right are without merit. The Court should reject Petitioners' Writ of Certiorari for lack of establishing a property right that could be infringed upon.

D. The Decision in *Gila IV* Does Not Infringe on Any Groundwater Right, It Merely Requires the Adjudication of Appropriable Subflow.

Assuming arguendo that Petitioners do have a right to potential, future groundwater use, they still have no claim under the holding in *Gila River IV*. Petitioners argue that their right to pump groundwater will be precluded by subjecting them to the decision in *Gila River IV*. Groundwater is not the subject of the

18. *Johnson v. Frankell*, 520 U.S. 911, 916, 117 S. Ct. 1800, 1894, 138 L. Ed. 2d 108 (1997); *Poulos v. New Hampshire*, 345 U.S. 395, 402, 73 S. Ct. 760, 765, 97 L. Ed. 1105 (1953); *Landmark Communications, Inc. v. Commonwealth of Virginia*, 435 U.S. 829, 838, 98 S. Ct. 1535, 1541, 56 L. Ed. 2d 1 (1978); and *Reitman v. Mulkey*, 387 U.S. 369, 378-379, 87 S. Ct. 1627, 1633, 18 L. Ed. 2d 830 (1967).

Gila River Adjudication at all. The Adjudication will determine the relative rights of all owners of property rights to the waters of the Gila River and its sources. The potential and future use of these surface and subflow rights are state property rights in Arizona under the doctrine of prior appropriation and beneficial use.[19] Where groundwater pumpers are interfering with those property rights, the Arizona Courts are permitted to enjoin this activity.[20] The Gila River Adjudication will decide the *inter sese* rights to the Gila River and its sources, not of groundwater. Thus, legally, there could be no taking of groundwater by the Gila River Adjudication court.

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19. *See San Carlos Apache Tribe, et al. v. Superior Court of Arizona*, 193 Ariz. 195, 205, 972 P. 2d 179 (1999). ("We agree with Judge Bolton's conclusion that the water rights of the parties in the Gila and Little Colorado general stream adjudications are vested substantive property rights.").

20. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1030, 112 S. Ct. 2886 (1992). ("The use of these properties for what are now expressly prohibited purposes was *always* unlawful, and . . . it was open to the State at any point to make the implication of those background principles of nuisance and property law explicit.").

CONCLUSION

The definition of subflow determined by the *Gila River IV* court concerns appropriable surface water. It does not expand any definition of subflow that existed in the past. It clarifies the definition of subflow. It requires those who pump surface water as "subflow" to participate in the comprehensive stream adjudication. To exclude them is to ignore the Courts' instruction in *San Carlos*.

The Petition for Writ of Certiorari filed by Petitioners Phelps Dodge and APS attempts to complicate and mislead the Court to avoid the consequences of the inter sese adjudication of rights to the Gila River and its sources. This Court should not permit Phelps Dodge and APS to muddy those waters. The Court lacks jurisdiction, and there is no takings question presented.

For the reasons set forth in this Response, the Petition for Writ of Certiorari should be denied.

Respectfully submitted,

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No. 00-1464

In The

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

versus

THE UNITED STATES, et al.,

Respondents.

**On Petition For Writ Of Certiorari
To The Supreme Court
Of The State Of Arizona**

BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

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CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 29.6 of the Rules of the Supreme Court of the United States, respondent Salt River Valley Water Users' Association ("SRVWUA") discloses that it is a private corporation organized under the laws of the State of Arizona and there is no parent corporation or publicly held company owning ten percent or more of SRVWUA's stock.

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BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

OPINION BELOW

The opinion of the Supreme Court of the State of Arizona (App. A to the petition) is reported as *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 9 P.3d 1069 (Ariz. 2000) (sometimes referred to herein as *"Gila River IV"* in order to distinguish it from cases cited in the decision below and in this brief as *Gila River I*,[1] *Gila River II*[2] and *Gila River III*[3]). The opinion below affirmed an unreported order of the Maricopa County Superior Court of the State of Arizona (Pet. App. B).[4]

JURISDICTION

The petition cites 28 U.S.C. § 1257(a) as the basis for the Court's jurisdiction. As discussed *infra* at pages 5-13, the Court does not have jurisdiction because the decision below is interlocutory and does not constitute a final judgment within the meaning of 28 U.S.C. § 1257(a). The Court should deny review on the additional procedural

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[1] *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 830 P.2d 442 (Ariz. 1992).

[2] *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 857 P.2d 1236 (Ariz. 1993).

[3] *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 989 P.2d 739 (Ariz. 1999), *cert. denied*, 530 U.S. 1250 (2000).

[4] Counsel for these respondents served as lead counsel in the Arizona Supreme Court for all parties supporting the trial court's order.

basis that the issues are not ripe for review. *See infra* at 13-20.

FACTUAL AND PROCEDURAL BACKGROUND

The petition challenges portions of the most recent interlocutory decision issued by the Arizona Supreme Court in an ongoing general stream adjudication of the Gila River system in the state.[5] The decision below also applies in the Little Colorado River watershed, which is the subject of a similar general stream adjudication pending in Arizona. The purpose of the two adjudications is to determine "the nature, extent and relative priority" of rights to use the waters of the particular "river system and source." Arizona Revised Statutes ("A.R.S.") §§ 45-251(2), 45-252(a).

The waters included in each "river system and source" at issue in the pending adjudications in Arizona are "all water appropriable under [A.R.S.] § 45-141 and all water subject to claims based upon federal law." A.R.S. § 45-251. Under Arizona law, appropriable water is limited to surface water – defined by statute as including water flowing in definite underground channels – and a judicially defined category of underground water known as "subflow." *See* A.R.S. § 45-141; *Gila River II*, 857 P.2d at 1240-1241; *Maricopa County Municipal Water Conservation District No. One v. Southwest Cotton Co.*, 4 P.2d 369, 380-381 (Ariz. 1931) (*"Southwest Cotton"*). Appropriable water – "surface" water and "subflow" – is governed by

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[5] The Gila River adjudication encompasses the watersheds of the Salt, Verde, Gila, Agua Fria, Santa Cruz and San Pedro rivers in Arizona.

the doctrine of prior appropriation. *Gila River IV*, 9 P.3d at 1073, ¶¶3, 5; *Gila River II*, 857 P.2d at 1241.[6]

Underground water in Arizona not flowing in a definite underground channel and not constituting subflow is known as "groundwater" or "percolating groundwater." *Gila River II*, 857 P.2d at 1240. It "is excluded from the legal rules applying to prior appropriation," *id.*, and therefore is not subject to a priority scheme under Arizona law. Instead, groundwater subject to Arizona law is governed by the doctrine of reasonable use or by the Groundwater Code, A.R.S. § 45-401 *et seq. Gila River IV*, 9 P.3d at 1073, ¶3.[7]

In view of Arizona's bifurcated system of water rights and the limited scope of general stream adjudications under A.R.S. § 45-252(a), the adjudication court must determine the extent to which water pumped from wells is appropriable under A.R.S. § 45-141. *Gila River II*, 857 P.2d at 1240. Initially, the trial court developed a test based upon the volume of stream depletion during a specified period of pumping. *Id.* at 1241. The Arizona Supreme Court accepted interlocutory review and, after

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[6] Under the doctrine of prior appropriation, "the one who first appropriates water and puts it to beneficial use thereby acquires a vested right to continue to divert and use that quantity of water against all claimants junior to him in point of time. 'First in time, first in right' is the short hand expression of this legal principle." *Arizona v. California*, 373 U.S. 546, 555 (1963).

[7] "The doctrine of reasonable use permits an overlying landowner to capture as much groundwater as can reasonably be used upon the overlying land and relieves the landowner from liability for a resulting diminution of another landowner's water supply." *Gila River III*, 989 P.2d at 743 n.3 (citing *Bristor v. Cheatham*, 255 P.2d 173, 180 (Ariz. 1953)).

reaffirming the holding in *Southwest Cotton* that subflow is appropriable water, rejected the trial court's test as being contrary to Arizona law. *Id.* at 1239, 1243-1246. The state supreme court remanded the case to the trial court to "take evidence and, by applying the principles contained in [the *Gila River II*] opinion, determine the criteria for separating appropriable subflow from percolating groundwater." *Id.* at 1248.

On remand, the trial court "held a ten-day evidentiary hearing, during which ten experts in the fields of geology and hydrology testified." *Gila River IV*, 9 P.3d at 1075, ¶13. The trial court also conducted a field trip, with experts and counsel, to one of the river basins. *Id.* After considering the evidence and briefs, the trial court issued a lengthy ruling in which it concluded that the saturated floodplain Holocene alluvium is the subflow zone. *Id.*, 9 P.3d at 1073, ¶2, 1075-1076, ¶¶14, 16-18. The trial court also ruled that a well outside the subflow zone may be subject to the adjudication if its cone of depression reaches the subflow zone and will affect the quantity of stream flow. 9 P.3d at 1081-1082, ¶¶38-40.

In *Gila River IV*, the Arizona Supreme Court affirmed "in its entirety" the subflow order entered by the trial court on remand. 9 P.3d at 1073, ¶2, 1083, ¶48. The supreme court concluded that the trial court's order is consistent with previous Arizona cases and does not amount to a taking of private property. 9 P.3d at 1078-1081, 1083.

SUMMARY OF ARGUMENT

The petition must be denied because the decision below does not qualify as a final judgment under 28 U.S.C. § 1257(a) and is not ripe for review. Even if the

petition were not premature, review would not be warranted because the Arizona Supreme Court reached the correct result and has not effected a taking of any property interest petitioners may have.

ARGUMENT

I. THE COURT LACKS JURISDICTION BECAUSE THE DECISION BELOW IS NOT A FINAL JUDGMENT

Under 28 U.S.C. § 1257(a), which is the only jurisdictional basis cited in the petition, review by the Court of state court decisions is expressly limited to "*[f]inal* judgments or decrees" (emphasis added). To be reviewable by the Court, a state-court judgment must be an effective determination of the litigation and not of merely interlocutory or intermediate steps therein. *Jefferson v. City of Tarrant*, 522 U.S. 75, 81 (1997).

Gila River IV is not a final judgment or decree. It is an interlocutory ruling and does not terminate the litigation, which is an ongoing water rights adjudication. It does not even dispose of all remaining issues of federal law. Although substantial progress has been made in resolving preliminary issues, no water rights have been adjudicated to a conclusion in the pending litigation except for a few court-approved settlements, and extensive proceedings remain to be completed in both the Arizona Supreme Court and the Superior Court. As part of the pending case, the Arizona Supreme Court is preparing its ruling in an interlocutory appeal of a federal question involving quantifying federal reserved rights.[8] As the trial court

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[8] Briefing and oral argument in the Arizona Supreme Court have been completed on the following issue: "What is the

moves forward with the adjudication process, its many tasks will include making factual findings based upon *Gila River IV*, adjudicating federal reserved rights by applying *Gila River III*, and determining the applicable quantification standards for federal reserved rights. All of the trial court's conclusions will be subject to appellate review by the Arizona Supreme Court. The federal questions will eventually be subject to review by this Court. *See Arizona v. San Carlos Apache Tribe of Arizona*, 463 U.S. 545, 571 (1983).

Gila River IV is not even determinative of the respective rights of petitioners and other competing claimants to water that may be accessible to petitioners' wells. The principles and criteria recognized by the Arizona Supreme Court will be applied to specific wells during future proceedings. A determination of the effect, if any, that application of *Gila River IV* will have on pumping by petitioners must await the outcome of factual development in the state courts. Arizona courts have not purported to determine that any particular well is pumping subflow or is subject to the adjudication, much less that a specific well is wrongfully interfering with appropriative rights or federal reserved rights and must curtail its pumping. *Gila River IV* contemplates that such determinations will be made during future proceedings on remand.

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appropriate standard to be applied in determining the amount of water reserved for federal lands?" *See Gila River III*, 989 P.2d at 742 n.2; Pet. App. D2. Future proceedings in Arizona courts will determine the extent, if any, to which specific supplies of groundwater, including those underlying petitioners' lands, are subject to federal reserved rights. *See Gila River III*, 989 P.2d at 748, ¶31.

It provides guidance to the trial court on how to determine whether particular wells are subject to the adjudication, including how to determine and map, with the technical assistance of the Arizona Department of Water Resources ("ADWR"), the location of the subflow zone along each river or other watercourse encompassed by the adjudication. *See Gila River IV*, 9 P.3d at 1081, ¶34, 1083, ¶48.

Similarly, it remains to be seen whether – and, if so, how – petitioners and other landowners will be affected by the statement in *Gila River IV* that "landowners have 'no legally recognized property right in potential, future groundwater use.' " 9 P.3d at 1083, ¶47 (quoting *Gila River I*, 830 P.2d at 451). Petitioners have not alleged or shown that the statement has been used to curtail pumping by existing wells or to preclude drilling of new wells. In its response supporting the petition, ASARCO Incorporated repeatedly recognizes that whether the quoted statement constitutes a taking depends in part upon how it is interpreted and applied by Arizona courts in future proceedings. *See* ASARCO Response at 2, 7 and 11 (an alleged taking depends upon whether the Arizona Supreme Court's statement is "taken literally" or "read literally") and at 11, 13 (the statement "appears" to constitute a taking).

Denying the petition as being premature will serve the purposes underlying the finality requirement in 28 U.S.C. § 1257(a), which include avoiding piecemeal review of state court judgments, refusing to give advisory opinions, and minimizing federal intrusion into state affairs. *North Dakota State Board of Pharmacy v. Snyder's Drug Stores, Inc.*, 414 U.S. 156, 159 (1973). Just last Term, in case numbers 99-1388 and 99-1389, the Court refused

to review the interlocutory ruling by the Arizona Supreme Court in *Gila River III* that federal reserved rights extend to groundwater. *See* 530 U.S. 1250 (2000). In urging the Court to deny the certiorari petitions in 99-1388 and 99-1389 on the ground that *Gila River III* is not a final judgment, the United States acknowledged that the petitioners will be entitled to seek review of *Gila River III* when the adjudications reach an end in state court, if the questions presented in 99-1388 and 99-1389 have not become moot in the interim. Brief in Opposition at 9. There is considerable overlap between the present petition and number 99-1388.[9] By denying immediate review of the pending certiorari petition, the Court will promote judicial economy and avoid fragmentary review of federal questions resolved by the state courts in a series of interlocutory opinions.

Deferring any consideration of petitioners' challenges would also be consistent with the Court's sound policy against issuing advisory opinions. Whether and how pumping by petitioners will be curtailed or otherwise affected as a result of the opinion in *Gila River IV* is not known at this time. The potential impact on petitioners and other parties is contingent upon determinations not yet made by Arizona courts. The Superior Court has not begun the process of determining and mapping the lateral boundaries of the subflow zone along each watercourse. A related task will be determining which

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[9] The parties are the same, the present petitioners were petitioners in 99-1388, and both petitions challenge decisions by the Arizona Supreme Court that provide guidance for determining which wells are subject to the adjudication and the nature and scope of rights and limitations associated with pumping by those wells.

wells located within those boundaries are not pumping subflow.[10] The quantities and priority dates of appropriative rights must also be established. The existence, scope and priority dates of any federal reserved rights to groundwater will also be determined in future proceedings in the adjudication.[11] The state court must also determine the extent to which groundwater pumping unlawfully interferes with federal reserved rights to surface water or groundwater.[12] Finally, the state court may be asked to determine the consequences and remedies for a well owner who is found to be pumping appropriable water.[13] Until all of these determinations are made, petitioners' assertion that the decision below will result in enjoining their pumping of groundwater is speculative.

Refusing to consider petitioners' challenges at this time would also avoid a risk of precipitating unnecessary interference with state courts. Future progress in the state courts may moot or modify petitioners' arguments. At the very least, deferring any review of *Gila River IV* until the end of the adjudication will enable the Court to limit its examination to federal questions presented in the context of the actual impact on the parties, after allowing the trial

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[10] Not all wells within the saturated floodplain Holocene alluvium pump subflow. *See Gila River IV*, 9 P.3d at 1077, ¶18 (any well whose perforations are below an impervious layer precluding drawdown from the floodplain alluvium will be treated as being outside the subflow zone).

[11] *See Gila River III*, 989 P.2d at 748-749, ¶¶31-32.

[12] *See id.*, 989 P.2d at 749-751.

[13] Issues relating to consequences and remedies could include whether to excuse noncompliance with statutory requirements and assign a priority date based upon when the well was drilled.

court and the Arizona Supreme Court to make final decisions on the parties' respective rights.

The pending petition does not fit within any of the exceptional circumstances in which the Court has found finality under 28 U.S.C. § 1257(a) despite future proceedings in state court. Four such situations were identified in *Cox Broadcasting Corp. v. Cohn*, 420 U.S. 469 (1975):

> (1) cases that are "for all practical purposes concluded" because "the federal issue is conclusive or the outcome of further proceedings preordained"; (2) cases in which "the federal issue . . . will survive and require decision regardless of the outcome of future state court proceedings"; (3) cases in which "later review of the federal issue cannot be had, whatever the ultimate outcome of the case"; and (4) cases "where reversal of the state court on the federal issue would be preclusive of any further litigation on the relevant cause of action" *and* "a refusal immediately to review the state court decision might seriously erode federal policy". *Id.* at 479-483 (emphasis added).

"In most, if not all, of the cases in these categories, these additional [state court] proceedings *would not require the decision of other federal questions* that might also require review by the Court at a later date." *Id.* at 477 (emphasis added). In those cases there was "no probability of piecemeal review with respect to federal issues." *Flynt v. Ohio*, 451 U.S. 619, 621 (1981). Here, it is likely that at a future date the important federal reserved rights questions that the Court refused to review last year in 99-1388 and 99-1389, and the federal question regarding the quantification standard that is now pending before the Arizona Supreme Court, will be brought to this Court.

With respect to the first category recognized in *Cox Broadcasting*, many issues of federal and state law will survive the final resolution of the federal questions posed by the pending petition, the adjudication is not "for all practical purposes concluded" (420 U.S. at 479), and the outcome of further proceedings is not preordained. As discussed above, numerous other findings and rulings yet to be made will affect the determination of the parties' water rights and the impact, if any, that *Gila River IV* may have on petitioners.

The pending petition also falls outside the second *Cox Broadcasting* category, which does not encompass eminent domain cases. *Radio Station WOW, Inc. v. Johnson*, 326 U.S. 120, 127 (1945). *Radio Station WOW* held that a judgment directing immediate delivery of property used as a federally licensed radio station was reviewable by the Court and was to be deemed disassociated from a future accounting because the judgment requiring the transfer was "independent of, and unaffected by," the accounting. *Id.* at 126. The present case is not remotely similar; future proceedings in state court will determine the extent, if any, to which pumping by petitioners interferes with appropriative rights or federal reserved rights and is affected by applying *Gila River IV*. Those future determinations will be directly relevant to issues inherent in petitioners' taking claim.[14]

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[14] In our reply memorandum supporting our certiorari petition in 99-1389, we argued that the Arizona Supreme Court's federal reserved rights ruling in *Gila River III* is "final" within the meaning of 28 U.S.C. § 1257(a). We relied primarily upon the second category in *Cox Broadcasting*. The facts and policies applicable to a consideration of the finality issue presented by the pending petition are substantially different. In

Moreover, *Cox Broadcasting* explained that the first two categories are limited to cases where "the federal issue would not be mooted or otherwise affected by the proceedings yet to be had because those proceedings have little substance, their outcome is certain, or they are wholly unrelated to the federal question." 420 U.S. at 478. For the reasons explained above, the future proceedings in the Gila River adjudication, including application of *Gila River IV*, will have great importance in determining whether any state law restrictions impact petitioners' pumping of groundwater. A related factor favoring denial of the petition at this juncture is that under the present record petitioners' constitutional claims are presented in an abstract form, with uncertainty regarding the water rights that will be decreed by the state court and the extent to which the decision below will impact petitioners' future pumping of groundwater, whereas further proceedings are likely to ultimately tender any taking issues to this Court in clean-cut and concrete form with a developed record. *See Minnick v. California Dept. of Corrections*, 452 U.S. 105, 123 (1981).

Unlike the third *Cox Broadcasting* category, this is not a situation in which review of petitioners' challenges "cannot be had" at the conclusion of the state court proceedings. 420 U.S. at 481. This case also fails to meet either of the two conditions of the fourth category recognized in *Cox Broadcasting*. *Even if* the decision below had effected a taking, it would be necessary to adjudicate

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any event, the Court denied the certiorari petitions in 99-1388 and 99-1399, and although the Court gave no reason for its denial, perhaps it agreed with the assertion of the United States and other respondents that the decision in *Gila River III* is not final.

rights under federal and state law to underground water accessible to petitioners' wells. Deferring review will promote federal policies recognized in *Snyder's Drug Stores* while preserving petitioners' right to bring the issues to this Court at a later date. Continuation of the Gila River adjudication in the interim will not undermine "identifiable federal statutory or constitutional policies". *Flynt*, 451 U.S. at 622.

For these reasons, the Court lacks jurisdiction over the issues presented by the petition. The petition is premature.[15]

II. PETITIONERS' CLAIMS ARE NOT RIPE FOR REVIEW

In addition to lacking finality, the decision below is not ripe for review by this Court. Petitioners appear to concede that the Arizona Supreme Court did not facially effect a taking of their alleged property interests.[16] As

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[15] We recognize that certain other interlocutory rulings by the Arizona Supreme Court on federal issues presented in the adjudication may qualify for immediate review. For instance, if the Arizona Supreme Court rules that practicably irrigable acreage is the exclusive standard for quantifying federal reserved rights for Indian lands (*see supra* note 8), such an important decision may not suffer the defects in finality and ripeness – such as factual uncertainties regarding how the lower court's decision will be applied – that preclude immediate review of *Gila River IV*.

[16] This section of our brief assumes, for purposes of argument, that petitioners have a protected property interest in groundwater that has not been pumped. That assumption is refuted in the following section of this brief, which shows that the Arizona Supreme Court was correct in stating that well owners do not own underground water and have no legally recognized property right in potential, future groundwater use.

petitioners acknowledge, answering the question of whether a taking has occurred requires a factual inquiry. Petition at 26. "Our cases uniformly reflect an insistence on knowing the nature and extent of permitted development before adjudicating the constitutionality of the regulations that purport to limit it." *MacDonald, Sommer & Frates v. Yolo County*, 477 U.S. 340, 351 (1986). "[N]o answer" to the question of whether a taking has occurred "is possible until a court knows what use, if any, may be made of the affected property." *Id.* at 350.

The petition is the equivalent of a motion for summary judgment, asking the Court to hold that as a matter of law an inevitable result of the decision of the Arizona Supreme Court will be to preclude petitioners and other landowners from pumping any groundwater, which in turn will allegedly render their land valueless. The petition baldly asserts that *Gila River IV* "has destroyed the reasonable investment-backed expectations of millions of Arizonans," that "appropriators now will be able to enjoin groundwater pumping from thousands of wells," that groundwater users "will be left without recourse," and that the wells owners "will be denied *any* economically beneficial or productive use of their land". Petition at 27 (emphasis in original). At best, all of these assertions by petitioners are speculative and unsupported by the record.

"[T]he issue whether a landowner has been deprived of all economically viable use of his property is a predominantly factual question." *City of Monterey v. Del Monte Dunes at Monterey, Ltd.*, 526 U.S. 687, 721 (1999). Here, the opinion of the Arizona Supreme Court does not purport to enjoin pumping by petitioners or others. There

is no indication in the record that pumping by petitioners' wells has been or will be curtailed as a result of *Gila River IV*. The potential for such a limitation is contingent upon numerous determinations yet to be made by the state courts and at this time is merely speculative. As explained in the preceding section of this brief, the impact that *Gila River IV* may have on pumping by petitioners' wells is uncertain until the state courts apply the criteria and principles affirmed by the Arizona Supreme Court in *Gila River IV*, adjudicate all appropriative and federal reserved rights that may be affected by such pumping, and decide whether to decree that owners of wells have appropriative rights to subflow pumped by their wells.[17]

The factual issues inherent in the portion of *Gila River IV* relating to cones of depression illustrate the unripe posture of petitioners' assertions. The adjudication court has not yet adopted a test for determining a well's cone of depression. *Gila River IV*, 9 P.3d at 1082, ¶39. "[E]ach well must be separately evaluated" to compute drawdown at the subflow zone. *Id.* Only the portion of each well's production that depletes streamflow constitutes appropriable water. *Id.*, ¶40. Until the Superior Court

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[17] For instance, under *Gila River III* and *Gila River IV* the state court must delineate the boundaries of the subflow zone along each watercourse, determine which wells owned by petitioners are located within those boundaries and are drawing subflow, establish the quantities and priority dates of all appropriative and federal reserved rights to the subflow and of all federal reserved rights to the common supply of groundwater, determine which wells are interfering with federal reserved rights, and find the extent to which cones of depression of wells located outside the subflow zone extend into the subflow zone and are depleting streamflow.

maps the subflow zones, performs the cone of depression analysis for each well, and makes associated findings, the extent to which wells owned by petitioners or others are pumping subflow is unknown.

Further, petitioners have made no attempt to show the extent to which they would be entitled to pump in the absence of *Gila River IV*. Any restrictions attributable to applying *Gila River IV* may be duplicated or exceeded in many instances by application of the doctrine of federal reserved rights as interpreted by the Arizona Supreme Court in *Gila River III*. Under *Gila River III*, federal reserved rights "extend to groundwater to the extent groundwater is necessary to accomplish the purpose of the federal reservation." 989 P.2d at 751, ¶43. Therefore, a finding that an aquifer tapped by petitioners' wells is subject to a federal reserved right could result in limiting petitioners' pumping, without regard to *Gila River IV*. *Gila River III* also held that federal law is more restrictive than Arizona law in protecting against pumping that interferes with water rights of others:

> Holders of federal reserved rights [to appropriable water or groundwater] enjoy greater protection from groundwater pumping than do holders of state law rights to the extent that greater protection may be necessary to maintain sufficient water to accomplish the purpose of a reservation.

989 P.2d at 751, ¶43.[18] Any state law restrictions on pumping by petitioners' wells cannot constitute a taking

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[18] The record provides no basis for assuming that continued pumping by petitioners will not be subject to the doctrine of federal reserved rights. Just last year, petitioners acknowledged in 99-1388 that the ruling in *Gila River III* "is of vital importance to the vast majority of the citizens of Arizona

if they are duplicated or exceeded by valid limitations imposed by federal law. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1027-1030 (1992) (no taking occurs if "the proscribed use interests . . . inhere in the [owner's] title itself" or in the "background principles" of the law of property).[19]

Due in part to the uncertainty at this time about the extent to which pumping by petitioners violates state law but not federal law, there is also uncertainty about the relief that might be awarded against petitioners. It is not a foregone conclusion that every well pumping in violation of state law will be enjoined. Depending upon the circumstances, relief might be limited to payment of damages or providing a substitute quantity of water. Petitioners may also be able to mitigate or eliminate their interference by shifting production to other wells or otherwise altering their pumping patterns or their land use.

Until the adjudication court determines specific instances in which pumping by petitioners complies with federal law but interferes with appropriative rights, and selects remedies for any violations of state law, it cannot

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who are dependent, in whole or in part, on groundwater". Petition in 99-1388 at 23. Petitioners explained that "dozens of large federal reservations [are] located throughout the state," and the groundwater basins "are a common resource . . . shared by both federal and non-federal claimants." *Id.*

[19] In *Gila River III*, the Arizona Supreme Court "reject[ed] as premature the argument of the Arizona Tribes that we should immediately enjoin pumping that is depleting water beneath reservations. Until federal rights are quantified, it cannot be determined which if any of the tribes are entitled to such relief." 989 P.2d at 749 n.12. Likewise, it would be premature for this Court to make any conclusions about the extent if any to which pumpers will be enjoined under *state* law.

be determined whether *Gila River IV* precludes petitioners from making any economically beneficial or productive use of their land. Petitioners acknowledge that an analysis of the potential impact of *Gila River IV* on their pumping necessitates a factual inquiry. Petition at 26. The present record provides no basis for this Court to determine how *Gila River IV* will affect petitioners' wells and the value of their land.

Petitioners' challenge to the statement in *Gila River IV* that landowners have no property right in potential future groundwater use lacks ripeness for an additional reason. Petitioners and ASARCO erroneously suggest that the court's statement eliminates their alleged rights under the Groundwater Code. *Gila River IV* does not interpret or apply, much less strike down, any provision of the Groundwater Code. The court expressly acknowledged that its decision does not change the legal status of underground water that is not appropriable. 9 P.3d at 1083, ¶45. Well owners are free to continue to pump groundwater in compliance with the requirements of the Groundwater Code so long as they do not interfere with federal reserved rights or appropriative rights. Unless and until the Arizona Supreme Court addresses whether and how *Gila River IV* affects any rights under the Groundwater Code, the supposition by petitioners and ASARCO that *Gila River IV* implicitly vitiates portions of the Code is not ripe for review by this Court.

The policy considerations that support the finality requirement also counsel against reviewing taking claims that are presented in the abstract and are based upon speculative assumptions, without a developed record. In the absence of any proof that *Gila River IV* will lead to an

injunction or damage award against petitioners, the petition is seeking an advisory opinion addressing all of the scenarios that may develop during additional proceedings in state court. Immediate review would also pose a risk of unnecessarily deciding a constitutional issue. As the record is developed in state court, the issues may become moot or changed. If the Court intervenes now, it may prematurely intrude into the state court litigation and create the prospect of piecemeal review; a decision by this Court that a taking may have occurred would have to be held in suspension until the adjudication is concluded and petitioners create a record showing the extent to which *Gila River IV* alone impacts their pumping and their ability to derive economic benefit from their land.

The Court has consistently held that a claim that the application of government regulations effects a taking of a property interest "is not ripe until the government entity charged with implementing the regulations has reached a final decision regarding the application of the regulations to the property at issue." *Williamson County Regional Planning Commission v. Hamilton Bank of Johnson City*, 473 U.S. 172, 186 (1985). Until there is a final decision at the state level that enables the Court to "conclusively determine whether [the landowner] will be denied all reasonable beneficial use of its property," the taking claim is not ripe. *Id.* at 194. As in *Williamson* and similar cases, including *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978), *Agins v. City of Tiburon*, 447 U.S. 255 (1980), *San Diego Gas & Electric Co. v. San Diego*, 450 U.S. 621 (1981) and *Hodel v. Virginia Surface Mining & Reclamation Association, Inc.*, 452 U.S. 264 (1981), petitioners' alleged taking claim is premature until the

additional state court proceedings run their course and the impact of *Gila River IV* on pumping by petitioners' wells becomes clear.

Robinson v. Ariyoshi, 887 F.2d 215 (9th Cir. 1989) is instructive. Property owners alleged that the Hawaii Supreme Court had taken their vested water rights in a decision that addressed "the existence of riparian rights, the limit on the right to divert water" and "the State's ownership of the waters." *Id.* at 218. Pursuant to instructions from this Court to consider the effect of *Williamson*, the Ninth Circuit Court of Appeals concluded that "this case does not pose a ripe controversy" and remanded "with instructions to dismiss the complaints." *Id.* at 216. The Ninth Circuit explained that "we cannot say at this point" that the landowners retained no reasonable beneficial use of their property or that their expectation interests had been completely destroyed. *Id.* at 219.

> To date, the State has not interfered in any way with the parties' use or diversions of the waters. . . . [E]ven if the State of Hawaii has placed a cloud on the title of the various private owners, this inchoate and speculative cloud is insufficient to make this controversy ripe for review. *Id.*

III. THE OPINION BELOW IS NOT A JUDICIAL TAKING AND DOES NOT WARRANT REVIEW BY THIS COURT

Even in the absence of the jurisdictional obstacles discussed above, review by this Court would not be warranted. The Arizona Supreme Court's decision is correct and does not effect a taking of petitioners' property.

A. The Subflow Test Approved by the Opinion Below Is Not a Sudden and Unpredictable Change in State Law

There is no basis for petitioners' assertion that *Gila River IV* constitutes a sudden and unpredictable change in Arizona law regarding subflow and percolating groundwater. Petitioners' argument was expressly rejected by the Arizona Supreme Court, which explained that the trial court's findings and conclusions regarding subflow are consistent with the fundamental principles established by previous Arizona cases addressing the subject. 9 P.3d at 1080, ¶32. *Gila River II* specifically refused to overrule or revise *Southwest Cotton* but acknowledged the necessity for "interpreting" the earlier case in order to "resolve as best we can the ambiguities and uncertainties left by that decision." 857 P.2d at 1243. *Gila River IV* determined that the trial court had properly applied on remand "the more general criteria set forth in *Gila River II*." 9 P.3d at 1080-1081, ¶33.[20]

In accordance with principles of comity and federalism, this Court should defer to the Arizona Supreme Court's interpretation of state law. *See Erie R. Co. v. Tompkins*, 304 U.S. 64 (1938); *Mullaney v. Wilbur*, 421 U.S. 684, 691 (1975) ("state courts are the ultimate expositors of state law" and the Supreme Court is "bound by their

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[20] Petitioners' taking argument was also rejected by the Arizona Supreme Court in 1993. In clarifying *Southwest Cotton*, adopting more specific criteria for distinguishing subflow from groundwater, and remanding to the Superior Court to apply the refined principles, *Gila River II* "implicitly rejected" petitioners' argument that application of those criteria and principles will constitute a taking of their property. *Gila River IV*, 9 P.3d at 1083, ¶¶45, 47.

constructions except in extreme circumstances"). Deference to the state court is particularly compelling in the arena of state water law, which has consistently been recognized as being the province of the states to develop and apply,[21] and in which public policy considerations – such as preserving flowing streams in an arid climate – play a central role.[22]

In any event, the decision below correctly rejected petitioners' assertion because it marked at most only an incremental and reasoned development of Arizona precedent as part of the evolutionary process of distinguishing subflow from percolating groundwater. Even if petitioners had a vested property right to pump groundwater, *Gila River IV* falls far short of the type of radical and unpredictable departure from previous decisions that might support a claim for a judicial taking.

Contrary to petitioners' contention that the subflow zone approved in *Gila River IV* is too wide, no Arizona case has stated that the lateral boundaries of the subflow zone must be within a particular distance from the stream bed. *Southwest Cotton* expressly recognized that a subflow zone may be at least several miles wide and that the entirety of such an area is considered to be "within, or

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[21] *See California v. United States*, 438 U.S. 645, 653 (1978) (federal water policy has reflected "purposeful and continued deference to state water law").

[22] Nearly a century ago, Justice Oliver Wendell Holmes observed that "few public interests are more obvious, indisputable, and independent of particular theory than the interest of the public of a state to maintain the rivers that are wholly within it substantially undiminished, except by such drafts upon them as the guardian of the public welfare may permit for the purpose of turning them to a more perfect use." *Hudson County Water Co. v. McCarter*, 209 U.S. 349, 356 (1908).

immediately adjacent to, the bed of the surface stream."[23] The court used the term "immediately adjacent" in a relative sense to designate a relatively narrow band along the stream in comparison to the breadth of the entire basin, which typically is tens of miles wide.[24] Portions of the San Pedro River valley, which was the focus of the evidentiary hearing in the trial court in the present case, are 15-20 miles wide, Pet. App. B11, whereas the floodplain alluvium "is found only in the center" of that valley (*id.*) and generally its outer boundary is within one mile of the stream. *See id.*; Fig. 8 to Ex. 1 (report of expert Jon Ford); Ex. 10 (report of ADWR), p. 10; Tr. IX at 56 (Steve Erb).[25] The trial court found that the floodplain aquifer is "the only true geologic unit which is beneath and adjacent to the stream". Pet. App. B55. The materials of the floodplain aquifer were deposited by the stream and fill the channel in which the stream has moved back and forth over the years. *See Gila River IV*, 9 P.3d at 1073 n.2; Ex. 10 at 53; Ex. 1 at 15; D.N. 2341 at 5-6; Tr. III at 66-67 (Allen Gookin). Even the edge of the unduly narrow

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[23] 4 P.2d at 381. *Southwest Cotton* noted with approval that in *City of Los Angeles v. Pomeroy*, 57 P. 585 (Cal. 1899), all underground waters flowing through a pass or outlet "about two miles wide" were found to constitute subflow. *Id.* According to *Southwest Cotton*, the conclusion in *Pomeroy* that the subflow zone was two miles wide "adhered to" the definitions and tests for subflow, including the adjacency requirement. *Id.*

[24] *Southwest Cotton* noted that the valley at issue in *Pomeroy* is "about twelve miles wide" and that the width of the river bottom is less than one-quarter of a mile. 4 P.2d at 381.

[25] All citations in this brief to exhibits, transcripts and court clerk docket numbers are to the record from the evidentiary hearing conducted by the trial court.

subflow zone proposed by petitioners is, in places, thousands of feet from the existing stream. *See* Ex. 91.

The core of the holding in *Southwest Cotton* is the following test that the court articulated for determining whether a well is pumping subflow:

> Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream? If it does, it is subflow. . . .

4 P.2d at 380. In *Gila River II*, the court recognized that "[i]f the extent of depletion is measurable, it is appreciable." 857 P.2d at 1245. Equating "appreciable" with "measurable" is consistent with dictionary definitions when *Southwest Cotton* was decided in 1931.[26] Petitioners do not dispute that pumping water from the saturated floodplain Holocene alluvium directly causes a measurable diminution of stream flow.

The very purpose of the concept of subflow is "to protect appropriable surface water rights against interference caused by the pumping of groundwater." *Gila River IV*, 9 P.3d at 1074. Nothing in *Southwest Cotton* or any other Arizona case or statute gives well owners a license to pump appropriable water – stream flow or subflow – without a valid appropriative right to do so.[27] No Arizona case or statute can fairly be interpreted as favoring

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[26] According to *Webster's New International Dictionary* (1930), "appreciable" meant "[c]apable of being appreciated or estimated; large or material enough to be estimated; perceptible."

[27] Since the 1800's, Arizona law has recognized that a senior appropriator is entitled to protection against measurable interference with its property right. *Austin v. Chandler*, 42 P. 483 (Ariz. 1895). In *Pima Farms Co. v. Proctor*, 245 P. 369 (Ariz. 1926), which was decided before *Southwest Cotton*, the Arizona Supreme Court affirmed a judgment against the defendant

groundwater over appropriable water. The losing parties in *Southwest Cotton* were well owners who unsuccessfully sought to enjoin upstream storage and diversion of the surface flows of the Agua Fria River. 4 P.2d at 372, 382. The Arizona Supreme Court plainly expressed a preference for appropriable water, referring to "the vastly more important surface [water] projects". *Id.* at 384. *Southwest Cotton* "effectively warned *all* Arizona water users that the law would *protect* surface water users *against groundwater pumping* that 'directly or appreciably' diminished surface flows." John D. Leshy & James Belanger, *Arizona Law Where Ground and Surface Water Meet*, 20 Ariz. St. L. J. 657, 690 (1988) (emphasis added).

> In effect, it has meant that *no* landowner in the state could have a *legitimate, legally protected expectation* of a right to pump groundwater regardless of its effect on surface streams.

Id. (emphasis added). The holding in *Gila River IV* regarding cones of depression is based squarely upon the decision on that subject in *Gila River II*, which in turn recognized that a cone of depression that extends into the subflow zone and depletes the stream is taking appropriable water. 857 P.2d at 1245. The trial court properly made a factual finding that historic pumping by wells located outside of the subflow zone has dried up certain streams in Arizona. *See* Pet. App. B34, B60.

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pumper, explaining that an "appropriator of water from a running stream is entitled to have it flow . . . to his point of diversion undiminished in quantity". *Id.* at 372. Arizona statutes also reflect that senior appropriators are entitled to protection against any measurable interference with their rights. *See* A.R.S. §§ 45-112, 45-151.A, 45-153.A, 45-175.

B. The Decision Below Does Not Transform Groundwater into Appropriable Water

Contrary to petitioners' accusation, nothing in the decision below "transform[s] . . . percolating groundwater into subflow" (Petition at 12). No previous Arizona case had purported to determine the boundaries of the subflow zone. No underground water that constitutes subflow previously constituted percolating groundwater. Its legal status had simply not yet been determined because the specific criteria necessary for doing so had not been fully developed and applied. Conversely, in the pending adjudication the Arizona Supreme Court has addressed only appropriable water, including subflow, and has not changed the legal status of any underground water that is not appropriable. 9 P.3d at 1083. In accordance with the directive given in *Gila River II*, the trial court "established[ed] an evidentiary and principled basis for *differentiating* appropriable subflow from percolating groundwater". *Id.* (emphasis added). Thus, no underground water that was percolating groundwater has been transformed into subflow.

C. The Statement in the Opinion Below Regarding an Absence of Property Rights in Groundwater Merely Reaffirmed Previous Opinions and Did Not Effect a Taking

Equally baseless is the assertion by petitioners and ASARCO that *Gila River IV* has taken their property by stating that landowners have no legally recognized property right in potential, future groundwater use. In the first place, the challenged statement is merely a quotation from *Gila River I*, which was decided eight years earlier and in turn paraphrased a holding in *Town of Chino Valley*

v. City of Prescott, 638 P.2d 1324, 1328 (Ariz. 1981) ("*Chino Valley II*"), *dismissed for want of substantial federal question*, 457 U.S. 1101 (1982). By merely repeating with approval statements made in previous cases, *Gila River IV* did not change prior law, much less "radically and suddenly" depart from established law (Petition at 9).

The argument made in the Petition that landowners have a vested property right in future groundwater use has repeatedly been rejected in decisions by both Arizona and federal courts that this Court has previously declined to review. Twenty years ago, the Arizona Supreme Court decided in *Chino Valley II* that contrary to *dictum* contained in certain previous cases, "there is no right of ownership of groundwater in Arizona prior to its capture and withdrawal from the common supply" and the right of the owner of the overlying land "is simply to the usufruct of the water." 638 P.2d at 1328. "Like wild animals free to roam as they please," percolating groundwater, "because of its migratory character," is "the property of no one." *Id.* Percolating groundwater need not "be acquired by eminent domain." *Id.* at 1329. In rejecting a challenge to the constitutionality of the Groundwater Management Act of 1980, *Chino Valley II* held that the enactment of the statute did not entitle landowners to "be paid compensation for any possible diminution of their rights which they may have had under the doctrine of reasonable use." 638 P.2d at 1330. The decision of the Arizona Supreme Court in *Chino Valley II* was appealed to this Court, which "dismissed for want of a substantial federal question." 457 U.S. at 1101.[28]

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[28] Twenty-five years earlier, the Arizona Supreme Court held that the Groundwater Code of 1948, which precluded

Landowners also unsuccessfully challenged the 1980 statute in federal court. In *Cherry v. Steiner*, 543 F.Supp. 1270 (D. Ariz. 1982), *affirmed*, 716 F.2d 687 (9th Cir. 1983), *cert. denied*, 466 U.S. 931 (1984), the district court rejected the landowners' taking claim. Citing *Erie*, the district court accepted the Arizona Supreme Court's determination in *Chino Valley II* that a landowner "has no [proprietary or property] interest in underlying groundwater prior to its capture." 543 F.Supp. at 1277. The foregoing quotation from the district court's opinion is directly contrary to the baseless assertion in the petition (at 21-22) that *Chino Valley II* does not stand for the proposition that a landowner has no legally recognized property right in potential, future groundwater use. The district court also rejected the landowners' allegation that *Chino Valley II* itself unconstitutionally destroyed property rights by working a radical and unpredictable change in state law. *Id.* Prior Arizona law "regarding groundwater as private property was not as clear" as plaintiffs alleged. *Id.* Further, because groundwater knows no boundaries, it "would be impossible to accord to each overlying landowner the right to the underlying, percolating water". *Id.* at 1278.

The decision of the district court in *Cherry v. Steiner* was affirmed by the Ninth Circuit Court of Appeals, which agreed that "*Chino Valley II* was not a 'startling' and 'unpredictable' change in Arizona property law, if it represents any change at all." 716 F.2d at 692. This Court denied a petition for a writ of certiorari. 466 U.S. 931. The

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pumping of groundwater to expand agricultural irrigation in critical areas, did not take property without compensation. *Southwest Engineering Co. v. Ernst*, 291 P.2d 764 (Ariz. 1955).

present petition inexplicably ignores the *Cherry v. Steiner* opinions. This Court, however, "rarely" reviews or rejects " 'a construction of state law agreed upon by the two lower federal courts,' " *Stenberg v. Carhart*, 530 U.S. 914, 940 (2000) (quoting *Virginia v. American Booksellers Association, Inc.*, 484 U.S. 383, 395 (1988)), and "pay[s] great deference" to such views, *Hillsborough Township v. Cromwell*, 326 U.S. 620, 630 (1946).

Petitioners and ASARCO are incorrect in suggesting that the Groundwater Code supposedly created vested property rights to pump groundwater in the future that allegedly have been taken by *Gila River IV*. Whatever "rights" landowners may have under Arizona law to pump groundwater have not been affected by *Gila River IV*, which merely approved and clarified the means of distinguishing groundwater from subflow. Pumping of groundwater continues to be governed by the Groundwater Code or the doctrine of reasonable use. *Gila River IV* "did not change existing law concerning subflow or otherwise improperly encroach on the state's Groundwater Code," 9 P.3d at 1083, ¶45, or on the doctrine of reasonable use. Further, the Code itself makes clear that it provides no basis for authorizing groundwater pumping to interfere with rights to subflow or other appropriable water:

> This chapter [the Groundwater Code] shall not be construed to affect decreed or appropriative water rights. Nothing in this chapter shall be construed to affect the definition of surface water in § 45-101 and the definition of water subject to appropriation in § 45-141. . . .

A.R.S. § 45-451.B.

Finally, as discussed above, the record contains no indication that *Gila River IV* has limited pumping of

groundwater by petitioners or will do so in the future, much less that Arizona courts have precluded petitioners from making productive use of their land. Regardless of their alleged property interest in groundwater, petitioners have failed to prove that it has been taken by the Arizona Supreme Court.

CONCLUSION

For the reasons discussed above, the petition should be denied.

Respectfully submitted,

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IN THE

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

UNITED STATES OF AMERICA, *et al.*,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE SUPREME COURT OF THE STATE OF ARIZONA

BRIEF IN OPPOSITION FOR RESPONDENT GILA RIVER INDIAN COMMUNITY

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QUESTION PRESENTED

Does a state supreme court decision interpreting long-standing and unique state law warrant United States Supreme Court review?

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SUPPLEMENTAL STATUTORY PROVISIONS INVOLVED IN THE CASE

Arizona Revised Statutes (A.R.S.) §§ 45-141(A) and (B) provides:

> A. The waters of all sources, flowing in streams, canyons, ravines, or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds and springs on the surface, belong to the public and are subject to appropriation and beneficial use as provided in this chapter.
>
> B. Beneficial use shall be the basis, measure and limit to the use of water.

A.R.S. § 45-251(7) provides:

> "River system and source" means all water appropriable under 45 § 141 and all water subject to claims based upon federal law.

A.R.S. § 45-252(A) provides:

> One or more water users upon a river system and source, the water rights of which have not been previously adjudicated under this article and administered by the director of water resources, or the state of Arizona upon the request of any state agency other than the department of water resources may file a petition to have determined in a general adjudication the nature, extent and relative priority of the water rights of all persons in the river system and source.

STATEMENT OF THE CASE

A. History Of Arizona Water Law

The State of Arizona has a unique, bifurcated system for allocating the use of water. Surface water is subject to the doctrine of prior appropriation, where the basic rule is "first in time, first in right." Under prior appropriation, junior appropriators are required to give up the use of water, in times of shortage, in favor of senior appropriators (those whose water use began at an earlier point in time). Underground water that is defined as "subflow" is also subject to the doctrine of prior appropriation. However, underground water that is defined as "percolating" is not subject to appropriation, but, rather, is subject to the doctrine of reasonable use. This distinctive system of water use allocation developed through a combination of Arizona statutes and common law.

In 1887, the Arizona Territorial Legislature declared that all rivers, creeks, and streams of running water, as well as lakes and ponds, were public property and subject to appropriation. *See* Revised Statutes of 1887, §§ 3199 and 3201. In *Howard v. Perrin,* 8 Ariz. 347, 353, 76 P. 460, 462 (1904), the Supreme Court of the Territory of Arizona determined that "a running stream flowing in natural channels between well-defined banks" was subject to appropriation under the statutes, but that "filtrating or percolating water oozing through the soil beneath the surface in undefined and unknown channels" was not subject to appropriation.

In 1919, the Legislature of the State of Arizona enacted a Water Code. *See* Laws of 1919, Chapter 164, Section 1. In 1928, this Water Code was amended to read: "The water

of all sources, flowing in streams, canyons, ravines or other natural channels or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water and of lakes, ponds and springs on the surface are public and subject to appropriation." Revised Statutes of 1928, § 3280. This language remains in Arizona's Water Code today, at Arizona Revised Statutes ("A.R.S.") § 45-141.

It was against this backdrop that the Arizona Supreme Court enunciated rules distinguishing between underground water that was subject to the doctrine of prior appropriation (*i.e.*, subflow) and underground water that was not subject to prior appropriation (*i.e.*, percolating). *See Maricopa County Municipal Water Conservation District v. Southwest Cotton Co.*, 39 Ariz. 65, 4 P.2d 369 (1931) ("*Southwest Cotton*"). In *Southwest Cotton*, the Arizona Supreme Court held that underground water that constitutes a part of the surface stream is appropriable, and defined such water as "subflow." The court also set forth criteria for determining subflow.

> The underflow, subflow, or undercurrent, as it is variously called, of a surface stream may be defined as those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream. 2 Kinney on Irrigation (2d Ed.) par. 1161.
>
> As the names given to this class of waters indicate, physically they constitute a part of the surface stream itself, and are simply incidental thereto, and also in the main depend on the surface stream

> to which they are incident for the greater part of their water supply. The best test which can be applied to determine whether underground waters are as a matter of fact and law part of the stream is that there cannot be any abstraction of the water of the underflow without abstracting a corresponding amount from the surface stream, for the reason that the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow.

Southwest Cotton, 39 Ariz. at 96, 4 P.2d at 380.

Groundwater that did not constitute "subflow" was defined as "percolating," and was not subject to appropriation. The Arizona Supreme Court did not, at that time, determine the rules governing use of non-appropriable "percolating water." Later Arizona Supreme Court decisions determined that "percolating" underground water was subject to the doctrine of beneficial use, and that a landowner could withdraw percolating water from beneath his own land, for beneficial use on his own land, without incurring damage for depleting the percolating water supply of his neighbor. *See Jarvis v. State Land Department*, 106 Ariz. 506, 479 P.2d 169 (1970); *Bristor v. Cheatham*, 75 Ariz. 227, 255 P.2d 173 (1953).

The Arizona Legislature recognized that water users in the state were "mining" groundwater at a rate far exceeding its natural recharge and, beginning in 1948, enacted a series of laws that culminated, in 1980, in the adoption of the Arizona Groundwater Management Act. A.R.S. § 45-401, *et seq*. This Act established critical groundwater management areas, and placed restrictions on the pumping and use of percolating

groundwater in these critical management areas. In *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 638 P.2d 1324 (1981) (*"Chino Valley II"*), the Arizona Supreme Court rejected allegations that the Groundwater Management Act impermissibly took property of landowners, whose land was over percolating water sources, without compensation. The Arizona Supreme Court determined that, under Arizona law, there was no private ownership of seeping or percolating water until it was reduced to actual possession and control. 131 Ariz. at 82, 638 P.2d at 1328.

B. History Of The General Adjudication Of All Rights To Use Water In The Gila River System And Source

In 1919, the Arizona Legislature adopted a procedure, conducted before the Arizona State Land Department, for the determination of conflicting water rights. *See* A.R.S. §§ 45-231 through 45-245 (repealed in 1979). Between 1974 and 1978, the Salt River Valley Water Users' Association and Phelps Dodge Corporation filed petitions to determine conflicting rights to use water in the Salt River above Granite Reef Dam, for the Verde River and its tributaries, for the Gila River, and for the Little Colorado River. *See General Water-Rights Adjudication in Arizona: Yesterday, Today and Tomorrow*, 27 Arizona Law Rev. 709 (1985). In 1979, the Arizona Legislature repealed the administrative procedure and replaced it with the General Adjudication of Water Rights statutes (A.R.S §§ 45-251 to 45-260). *See United States v. Superior Court of Arizona*, 144 Ariz. 265, 271, 697 P.2d 658, 664 (1985).

Thereafter, adjudication of all water rights in the Salt, Verde, Gila, Agua Fria, Upper Santa Cruz, and San Pedro River watersheds was consolidated into one general adjudication entitled *In re the General Adjudication of All Rights to Use*

Water in the Gila River System and Source ("*General Adjudication*"). After consolidation, the Superior Court identified certain legal issues the court would resolve before proceeding to its adjudication of individual claims. *See In the Matter of the Rights to the Use of the Gila River*, 171 Ariz. 230, 233, 830 P.2d 442, 445 (1992) ("*Gila River I*").

In October of 1987, the trial court conducted five days of hearings on the relationship between surface water and groundwater. Following the hearings, a motion was filed to exclude from the adjudication all wells pumping percolating groundwater — leaving only those wells pumping surface flow and subflow within the meaning of *Southwest Cotton*. The trial court enunciated a test (the "50%/90 day rule") under which groundwater was considered to be subflow if, during a period of 90 days of continuous pumping, the stream depletion reached 50% or more of the amount of water pumped. *See In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 175 Ariz. 382, 384-386, 857 P.2d 1236, 1238-1240 (1993) ("*Gila River II*").

Six legal issues, arising out of the *General Adjudication*, were accepted for Interlocutory Appeal by the Arizona Supreme Court. One of the questions for review was: Did the trial court err in adopting its 50%/90 day test for determining whether underground water is "appropriable" under A.R.S. § 45-141? *See* Interlocutory Issue 2, *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 195 Ariz. 411, 414, 989 P.2d 739, 742 (1999) ("*Gila River III*").

While the court in *Gila River II* agreed that "subflow," as the term was used in *Southwest Cotton*, was appropriable water and subject to the jurisdiction of the *General Adjudication*, it also determined that the trial court's 50%/90 day rule did not meet the *Southwest Cotton* subflow criteria. The Arizona

Supreme Court vacated the portion of the trial court's order that formulated the 50%/90 day rule — remanding the matter to the trial judge to take evidence and, by applying the principles contained in *Gila River II*, determine criteria for distinguishing appropriable subflow from percolating groundwater. 175 Ariz. at 394, 857 P.2d at 1248.

Following remand, a trial was conducted to determine the criteria for separating appropriable subflow from percolating water. The Arizona Supreme Court reviewed the trial court's determination of fact and law, and concluded:

> We affirm the trial court's order after remand in all respects. The subflow zone is defined as the saturated floodplain Holocene alluvium. DWR, in turn, will determine the specific parameters of that zone in a particular area by evaluating all of the applicable and measurable criteria set forth in the trial court's order and any other relevant factors. *See* §§ 33-35, *supra*. All wells located within the lateral limits of the subflow zone are subject to this adjudication. In addition, all wells located outside the subflow zone that are pumping water from a stream or its subflow, as determined by DWR's analysis of the well's cone of depression, are included in this adjudication. Finally, wells that, though pumping subflow, have a de minimus effect on the river system may be excluded from the adjudication based on rational guidelines for such an exclusion, as proposed by DWR and adopted by the trial court.

In re the General Adjudication of All Rights to Use Water in the Gila River System and Source, 198 Ariz. 330, 344, 9 P.3d 1069, 1083 (2000) (*"Gila River IV"*).

ARGUMENT

THERE IS NO COMPELLING REASON TO GRANT CERTIORARI. CERTIORARI SHOULD BE DENIED.

"Review on a writ of certiorari is not a matter of right, but of judicial discretion. A petition for a writ of certiorari will be granted only for compelling reasons." Rule 10, Rules of the Supreme Court of the United States. There are no compelling reasons for the Court to grant this Petition.

I. THE ARIZONA SUPREME COURT DECISION, IN *GILA RIVER IV* (THE OPINION BELOW), DOES NOT CONFLICT WITH OR REVERSE PREVIOUS DECISIONS OF THE ARIZONA SUPREME COURT.

Petitioners claim that "[t]he Opinion Below, by unpredictably expanding the definition of subflow, takes property from landowners who relied on the formerly narrow definition when deciding where to locate and invest in wells." Petition, page 11. Petitioners are factually and legally incorrect. In *Gila River IV*, the Arizona Supreme Court did not expand the definition of subflow and did not take property from any landowners.

A. The Decision Of The Arizona Supreme Court, Concerning Subflow, Followed Established Arizona Precedent And Was Not Sudden, Unpredictable, Or Retroactive.

The lynchpin of Petitioners' arguments is that the Arizona Supreme Court's criteria for determining whether underground waters constitute subflow, as enunciated in *Gila River IV*, "constitutes a sudden and unpredictable departure from all prior judicial precedents." Petition, page 13.

Since the 1931 *Southwest Cotton* decision, subflow has legally been considered to be part of the surface stream and subject to the doctrine of prior appropriation. The Arizona Supreme Court recognized that it must determine "the extent to which water pumped from wells must be treated as appropriable under § 45-141 or, conversely, as groundwater excluded from the legal rules applying to prior appropriation." *Gila River II*, 175 Ariz. at 386, 857 P.2d at 1240.

Throughout the various interlocutory appeals of the *General Adjudication*, the Arizona Supreme Court has consistently stated that it would only interpret the requirements of *Southwest Cotton*, and that it was not going to change or expand the definition of subflow. In *Gila River IV*, the court discussed its decision in *Gila River II*, stating: "In so holding, we reaffirmed the principles set forth in *Southwest Cotton,* noting that our role was to interpret, not to expand or in any way change, the holdings in that case." 198 Ariz. at 335, 9 P.3d at 1074.

Petitioners argue that, in *Gila River IV*, the Arizona Supreme Court failed to follow the same criteria for determining subflow as were used in *Southwest Cotton*. To support their contention, Petitioners pick and choose selected words from *Southwest Cotton* and subsequent decisions, and completely ignore the criteria for determining subflow that were set out in *Southwest Cotton* and followed in *Gila River IV*.

> The underflow, subflow, or undercurrent, as it is variously called, of a surface stream may be defined as those waters which slowly find their

> way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream. 2 Kinney on Irrigation (2d Ed.) par. 1161.
>
> As the names given to this class of waters indicate, physically they constitute a part of the surface stream itself, and are simply incidental thereto, and also in the main depend on the surface stream to which they are incident for the greater part of their water supply. The best test which can be applied to determine whether underground waters are as a matter of fact and law part of the stream is that there cannot be any abstraction of the water of the underflow without abstracting a corresponding amount from the surface stream, for the reason that the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow.

Southwest Cotton, 39 Ariz. at 96, 4 P.2d at 380.

The *Southwest Cotton* court explained some of the evidentiary elements that could be used in determining whether underground water was appropriable subflow or non-appropriable percolating water — a series of wells or borings, tunnels, the color and character of the water, the sound of water passing underneath the earth, the interruption of the flowing of other wells on the line of the alleged subterranean stream, geologic formation, and others.

39 Ariz. at 87, 4 P.2d at 377. In *Gila River IV*, the Arizona Supreme Court reiterated the *Southwest Cotton* criteria:

> The court articulated the following test for determining whether a well is pumping subflow: Does drawing off the subsurface water tend to diminish appreciably and directly the flow of the surface stream? If it does, it is subflow, and subject to the same rules of appropriation as the surface stream itself. . . .

198 Ariz. at 335, 9 P.3d at 1074.

The *Gila River IV* court then explained: "Although 'subflow' is a purely legal, not scientific, term, defining its boundaries is not only difficult at best but also turns ultimately on resolution of factual questions." 198 Ariz. at 337, 9 P.3d at 1076. The Arizona Supreme Court noted that, in *Gila River II*, it had rejected the trial court's 50%/90 day rule as arbitrary and set forth some of the evidentiary elements that might be useful in determining, as a matter of fact and law, what underground water constituted subflow. These included "such characteristics as elevation, gradient, and perhaps chemical makeup" of the surface stream and underground water. 198 Ariz. at 341, 9 P.3d at 1080. In addition, "[f]low direction can be an indicator. If the water flows in the same general direction as the stream, it is more likely related to the stream." *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246.

After the remand from *Gila River II*, the trial court conducted an extensive ten-day evidentiary hearing, during which ten experts in the fields of geology and hydrology

testified. The court also spent two days traveling almost 600 miles in the San Pedro River basin. At each of the thirteen sites visited, each expert was allowed to explain the geology and hydrology of the site. Four months after the field trip, the trial court held a two-day supplemental evidentiary hearing. 198 Ariz. at 336, 9 P.3d at 1075.

The Arizona Supreme Court noted that the trial court order and findings of fact were comprehensive and detailed, being sixty-six pages long, with thirty-six additional pages of exhibits. The record included not only transcripts of the evidentiary hearings, but also numerous reports, drawings, charts, and other exhibits. *Gila River IV*, 198 Ariz. at 336, 9 P.3d at 1075. The *Gila River IV* court observed that the trial court defined "subflow" as the "saturated floodplain Holocene alluvium" because " '[t]he weight of the evidence' pointed to that geological unit 'as the most credible "subflow" zone.' " 198 Ariz. at 334, 9 P.3d at 1073. The court found "that the record reasonably supports that central finding as well as the trial court's related findings" and concluded that "the trial court's ruling is not invalidated by this court's prior decisions relating to subflow" and that "the ruling comports with hydrological reality as it is currently understood." 198 Ariz. at 334, 9 P.3d at 1073. For these reasons, the Arizona Supreme Court affirmed the trial court's order in its entirety.

Petitioners had argued to the trial court that the subflow zone should be the post-1880 entrenchment (the channel that the San Pedro River took following a major flood in the 1880s). The trial court rejected this factual claim as not being supported by the evidence; and both the trial court and the Arizona Supreme Court noted that the post-1880 entrenchment did not meet the criteria for subflow. *Gila River IV*, 198 Ariz. at 339, 9 P.3d at 1078.

Having failed to convince the trial court and the Arizona Supreme Court that their proposed post-1880 entrenchment was more appropriate as a subflow zone than the saturated floodplain Holocene alluvium, Petitioners now attempt to argue that, in *Gila River IV*, the Arizona Supreme Court failed to follow the same criteria for determination of subflow as were used in *Southwest Cotton*. The determination of whether underground water constitutes subflow involves matters of fact and law. *See Southwest Cotton*, 39 Ariz. at 96, 4 P.2d at 380; *Gila River II*, 175 Ariz. at 388, 857 P.2d at 1242; and *Gila River IV*, 198 Ariz. at 341, 9 P.3d at 1080. Petitioners merely disagree with the factual determination made by the trial court, after a ten-day hearing, and the legal determination of the Arizona Supreme Court that the trial court properly applied unique Arizona state law in its interpretation of the facts. Petitioners are asking this Court to accept certiorari for the purpose of deciding whether the Arizona Supreme Court correctly interpreted its own court-created doctrine, and to decide whether the facts presented in the evidentiary hearing more appropriately supported their claimed subflow zone than it did the subflow zone established by the trial court and approved by the Arizona Supreme Court.

Petitioners argue that subflow is a "narrow concept" and then allege, without basis, that this "narrow concept" mandates a narrow geographic expanse. A computer search, however, reveals that the word "narrow" does not appear in the *Southwest Cotton* decision, either in terms of the breadth of the subflow doctrine or the possible geographic width of the subflow zone. Indeed, the *Southwest Cotton* court relied heavily on Clesson S. Kinney's *Treatise on the Law of Irrigation and Water Rights* (2d ed. 1912) which, at § 1161, pages 2106-2107, defined subflow as "the broad and deep subterranean volume of water which slowly flows through the sand and gravel underlying

most, if not all, of the streams which traverse the country adjacent to the mountain systems of the arid region." *Gila River IV*, 198 Ariz. at 334, 9 P.3d at 1073.

The Arizona Supreme Court, in analyzing the trial court's 50%/90 day rule, determined that this rule was too broad and exceeded the criteria for subflow set out in *Southwest Cotton*. In particular, the court rejected the rule's emphasis on the percentage of water depleted by pumping over a specified period of time, rather than focusing on whether the water being pumped tends to diminish appreciably and directly the flow of the surface stream. *Gila River II*, 175 Ariz. at 393, 857 P.2d at 1247. In addition, the court rejected the 50%/90 day rule because it would identify the underground water of tributaries as subflow, in violation of the *Southwest Cotton* definition of subflow. *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246.

Thus, by rejecting the too-broad 50%/90 day rule adopted by the trial court, the Arizona Supreme Court reaffirmed "Southwest Cotton's narrow concept of subflow" in *Gila River II*. 175 Ariz. at 393, 857 P.2d at 1247. In *Gila River III*, the Arizona Supreme Court again explained that the "narrow concept" of subflow "turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium." *Gila River III*, 195 Ariz. at 416, 989 P.2d at 744 (citing *Gila River II*).

In *Gila River IV*, the Arizona Supreme Court specifically considered and rejected Petitioners' argument that the saturated floodplain Holocene alluvium violated the "narrow concept" of *Southwest Cotton*, as discussed only seven years earlier in *Gila River II*. The court wrote:

> As the groundwater users correctly observe, this court "adopted [Kinney's] narrow definition

> [of subflow] in *Southwest Cotton*," *Gila River II*, 175 Ariz. at 390, 858 P.2d at 1244, and again characterized subflow as "a narrow concept" in *Gila River II*. *Id.* at 391, 857 P.2d at 1245. Although those abstract, general statements hold true, we also observed in *Gila River II* that variations may affect where the line is drawn between subflow and nonappropriable percolating water, "depending on the volume of stream flow and other variables." *Id.* Thus, defining subflow in any particular area is a relative endeavor, "not an all-or-nothing proposition." *Id.* And, although "the line between surface and groundwater . . . is, to some extent, artificial and fluid," *id.* at 392, 857 P.2d at 1246, our various descriptions of subflow in *Gila River II* and *Southwest Cotton* should not serve as a straitjacket that restricts us from reaching in the direction of the facts and, so far as possible under those decisions, conforming to hydrological reality.

Gila River IV, 198 Ariz. at 340, 9 P.3d at 1079.

The Arizona Supreme Court also specifically rejected Petitioners' contention that a "narrow concept" would necessitate a subflow zone of only a few feet.

> The resolution of this case should not hinge on the semantics used in either *Gila River II* or *Southwest Cotton* to generally describe subflow. *In short, those decisions were not intended to establish hard and fast, artificial parameters for subflow based solely on its geographic reach or on some arbitrary distance from a streambed. . . .*

> Rather, as we stated in *Gila River II*, the determination of whether a particular well is pumping subflow depends on "whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium," 175 Ariz. at 392, 857 P.2d at 1246, and whether " 'drawing off the subsurface water tend[s] to diminish appreciably and directly the flow of the surface stream.' " *Id.* at 393, 857 P.2d at 1247, quoting *Southwest Cotton*, 39 Ariz. at 97, 4 P.2d at 380. That determination, in turn, necessitates a comparative evaluation of such factors as "elevation, gradient, [flow direction,] and perhaps chemical makeup." *Gila River II*, 175 Ariz. at 392, 857 P.2d at 1246. [Emphasis added.]

Gila River IV, 198 Ariz. at 341, 9 P.3d at 1080.

Petitioners argued before the Arizona Supreme Court, in *Gila River IV*, that the "narrow concept" of subflow mandated a subflow zone of only a few feet and that the saturated floodplain Holocene alluvium did not, as a matter of fact and law, fulfill the criteria of subflow. The Arizona Supreme Court clearly and definitely told the Petitioners that they were wrong, as a matter of fact and Arizona law. Petitioners now argue to this Court that, in *Gila River IV*, the Arizona Supreme Court misinterpreted unique Arizona law and misapplied the facts. They request this Court to tell the Arizona Supreme Court it incorrectly interpreted two of its own decisions, *Gila River II* and *Southwest Cotton*.

This Court has repeatedly held that "it is a well-established principle of federalism that a state decision resting on an adequate foundation of state substantive law is

immune from review in the federal courts." *Wainright v. Sykes*, 433 U.S. 72, 82, 97 S. Ct. 2497, 2503, 53 L. Ed. 2d 594 (1977). "Neither this Court nor any other federal tribunal has any authority to place a construction on a state statute different from the one rendered by the highest court of the state." *Johnson v. Frankell*, 520 U.S. 911, 916, 117 S. Ct. 1800, 1804, 138 L. Ed. 2d 108 (1997). The Arizona Supreme Court has interpreted Arizona statutes as providing that groundwater in the saturated floodplain Holocene alluvium is presumptively subflow and subject to the jurisdiction of a general adjudication of water rights. Such "state interpretation is as though written into the ordinance itself." *Poulos v. New Hampshire*, 345 U.S. 395, 402, 73 S. Ct. 760, 765, 97 L. Ed. 1105 (1953).

In *Gila River IV*, the Arizona Supreme Court determined that its decision involved the same definition of subflow as the court had been using for the past seventy years. 198 Ariz. at 334, 9 P.3d at 1073. The court specifically determined that its *Gila River IV* decision was in accordance with the legal principles set out in *Gila River II* (in 1993) and in *Southwest Cotton* (in 1931). There clearly has been no change in Arizona law, sudden or otherwise, and this Petition for Writ of Certiorari should be denied.

B. No Rights, Vested Or Otherwise, Have Been Taken From Petitioners.

The decision in *Gila River IV* did not take any rights, property or otherwise, from any water user in the State of Arizona. Under Arizona law, water is either appropriable or it is not. Surface water, and its corresponding underground subflow, is appropriable. Percolating groundwater is not appropriable. This has been the law in Arizona since 1931.

Gila River IV did not change this law. If underground water is subflow, under both *Southwest Cotton* and *Gila River IV* it is appropriable. If it is appropriable, its use is subject to the jurisdiction of Arizona courts in general stream adjudications. All *Gila River IV* did was to clarify criteria by which the factual and legal determination of subflow can be rendered.

The Arizona Supreme Court was quite aware that its opinion was not altering any rights or changing the status of any water. In *Gila River IV*, the court wrote:

> [T]he trial court did not change existing law concerning subflow or otherwise improperly encroach on the state's Groundwater Code, A.R.S. §§ 45-401 through 45-704. Rather, the court merely applied the criteria set forth in *Gila River II* to the evidence presented on remand. As SRP correctly notes, the trial court's order "addresses only appropriable water and wells that pump such water," without "chang[ing] the legal status of underground water that is not appropriable."

Gila River IV, 198 Ariz. at 344, 9 P.3d at 1083.

Before *Gila River IV*, subflow was appropriable. After *Gila River IV*, subflow was appropriable. The determination whether particular underground water is subflow is a question of fact, to be determined in accordance with the criteria set out in *Southwest Cotton*, *Gila River II*, and *Gila River IV*. Petitioners attempt to give the impression that, if a well is determined to be pumping subflow, the well owner will be prohibited from ever utilizing water from that well. This is false. *Gila River IV* does not hold that parties may not use

subflow water. Rather, the decision holds that subflow is appropriable, and that its nature, extent, and relative priority must be established in a general stream adjudication. Whether water is surface water or subflow, it is part of the stream — and any right to use it is based on the relative priority of the use and the amount of water available.

Gila River IV did not take rights away from any water user. All it did was confirm that those water users pumping subflow were still active parties in the *General Adjudication*.

II. THE ARIZONA SUPREME COURT HAS NOT CHANGED LONG-STANDING ARIZONA LAW CONCERNING PERCOLATING UNDERGROUND WATER.

Just as the decision in *Gila River IV* did not change the definition of subflow, and did not take any rights away from any water user in Arizona, the decision did not change the definition of percolating groundwater or change the legal status of percolating groundwater.

Petitioners take exception to this language in *Gila River IV*:

> Moreover, because a well owner does not own underground water, *Town of Chino Valley v. City of Prescott*, 131 Ariz. 78, 82, 638 P.2d 1324, 1328 (1981), and because landowners have "no legally recognized property right in potential, future groundwater use," *Gila River I*, 171 Ariz. at 239, 830 P.2d at 451, the constitutional argument is substantively without merit.

198 Ariz. at 344, 9 P.3d at 1083. However, this language is actually an accurate statement of long-standing Arizona

statutory and common law. In 1981, in *Chino Valley II*, the Arizona Supreme Court unambiguously stated that, under Arizona law, there was no right to ownership of groundwater. The court considered previous Arizona decisions containing statements indicating that the owner of the overlying land owned the percolating groundwater under that land. The court considered the issues, language, and decisions in *Howard v. Perrin* and *Southwest Cotton*, and determined that any statements concerning ownership of groundwater or percolating groundwater were dicta and irrelevant to the resolution of the issues in these cases. The court declared:

> *Dictum thrice repeated is still dictum.* It is a court's statement on a question not necessarily involved in the case and, hence, is without force of adjudication. [Citation omitted.] It is not controlling as precedent. [Citation omitted.] *We therefore hold that the statement first made in Howard v. Perrin* and reiterated under circumstances where the exact nature of the overlying owner's rights to the water beneath his property were not in question *is not precedent for the decision in this case.* [Emphasis added.]

Chino Valley II, 131 Ariz. at 81, 638 P.2d at 1327.

In *Chino Valley II*, appellants claimed that the Arizona Groundwater Management Act denied them due process of law and just compensation. The question, the Arizona Supreme Court determined, was: "[W]hat are a landowner's rights in the water percolating under his lands?" 131 Ariz. at 82, 638 P.2d at 1328. The court answered: "In the absolute sense, there can be no ownership in seeping and percolating waters until they are reduced to actual possession and control

by the person claiming them because of their migratory character. Like wild animals free to roam as they please, they are the property of no one." 131 Ariz. at 82, 638 P.2d at 1328. The court held that "there is no right of ownership of groundwater in Arizona prior to its capture and withdrawal from the common supply and that the right of the owner of the overlying land is simply to the usufruct of the water." 131 Ariz. at 82, 638 P.2d at 1328. The decision was appealed to this Court, where it was "dismissed for want of a substantial federal question." *Town of Chino Valley v. City of Prescott*, 457 U.S. 1101, 102 S. Ct. 2897, 2898, 73 L. Ed. 2d 1310 (1982).

Arizona appellate courts have, over the last twenty years, consistently and unequivocally held that one does not own groundwater in Arizona. In *Arizona Public Service Company v. Long*, 160 Ariz. 429, 436, 773 P.2d 988, 995 (1989), the Arizona Supreme Court stated: "One does not own water in Arizona. One only has the right to put it to beneficial use. This applies to both surface water [citation omitted] and groundwater [citation omitted]." *See also Arizona Water Company v. City of Bisbee*, 172 Ariz. 176, 179, 836 P.2d 389, 392 (App. 1992).

The Arizona Supreme Court examined the issue of ownership of percolating groundwater in *Gila River I*. Therein, the court declared that, under Arizona law, there is no ownership of water, surface or underground, and that water rights are based on current beneficial use — with no party having a right to future potential water use. The court stated:

> Arizona law recognized no right to reserve water for some potential future use. *See* John D. Leshy

> & James Belanger, *Arizona Law Where Ground and Surface Water Meet,* 20 Ariz. St. L.J. 657, 698 (1988). Those wishing to contest that general principle were not asserting a right to property; Arizona law recognized no such property right. *See id.; Town of Chino Valley v. City of Prescott,* 131 Ariz. 78, 82, 638 P.2d 1324, 1328 (1981). * * * Having no legally recognized property right in potential, future groundwater use, they have no due process rights of which they can be deprived by the summons or the instructions which accompanied it.

171 Ariz. at 239, 830 P.2d at 451.

Federal courts have acknowledged that, under Arizona law, there are no property rights to percolating groundwater. In *Cherry v. Steiner*, 543 F. Supp. 1270 (1982) ("*Cherry I*"), the District Court considered whether the Arizona Groundwater Management Act violated the Fifth and Fourteenth Amendments. After observing that federal courts look to state law for the definition of property rights, the District Court wrote: "The only interpretation of Arizona law open to this Court is that a landowner has no interest in underlying groundwater prior to its capture. Without an interest in the percolating water, the plaintiffs may not assert a wrongful taking of their property; *Chino Valley II* emasculates their due process argument." 543 F. Supp. at 1277.

For almost twenty years, groundwater users have been claiming that the inability to own percolating groundwater is an unpredictable change in Arizona law, giving rise to a federal question as to whether property has been

impermissibly taken without due process. However, in *Cherry I*, the District Court recognized that *Chino Valley II* did not constitute an unpredictable or sudden change in Arizona law concerning ownership of percolating water. 543 F. Supp. at 1277-1278. The Ninth Circuit upheld the District Court's decision, agreeing that the determination, that there was no ownership of percolating groundwater under Arizona law, "was not a 'startling' and 'unpredictable' change in Arizona property law, if it represents any change at all." *Cherry v. Steiner*, 716 F.2d 687, 692 (1983) ("*Cherry II*"). A statement of law that did not constitute a sudden or unpredictable change in 1982 could hardly be a sudden or unpredictable change in 2000. Thus, *Gila River IV* did not represent a sudden or unpredictable change in Arizona law concerning either subflow or percolating water.

III. THE LANGUAGE, IN *GILA RIVER IV*, PERTAINING TO PERCOLATING WATER IS DICTUM AND NOT SUBJECT TO REVIEW BY THIS COURT.

Petitioners complain about the language in *Gila River IV* stating that "landowners have 'no legally recognized property right in potential, future groundwater use.' " 198 Ariz. at 344, 9 P.3d at 1083. While that language is a correct, long-standing statement of Arizona water law, it is also dictum in *Gila River IV*. Dictum "is a court's statement on a question not necessarily involved in the case and, hence, is without force of adjudication. [Citation omitted.] It is not controlling as precedent." *Chino Valley II*, 131 Ariz. at 81, 638 P.2d at 1327.

The *General Adjudication* only has jurisdiction to determine the nature, extent, and priority of water uses that

are subject to prior appropriation. Percolating groundwater is not subject to prior appropriation, and percolating water uses cannot be affected in the *General Adjudication*. Thus, any language in *Gila River IV* dealing with percolating water is not necessary to the decision. The United States Supreme Court should not accept certiorari for the purpose of reviewing dictum of a state supreme court.

IV. THE DECISION OF THE ARIZONA SUPREME COURT DID NOT CONSTITUTE A TAKING OF PROPERTY WITHOUT COMPENSATION IN VIOLATION OF THE FIFTH AMENDMENT.

Gila River IV did not represent a change in the seventy-year-old doctrine of subflow; nor did it represent a change in the twenty-year-old determination that there are no ownership rights to percolating groundwater. However, even if *Gila River IV* had constituted a sudden and unpredictable change in the law, a decision by a state supreme court to revise or update state common law would not constitute a taking of private property under the Fifth Amendment.

A. Petitioners Have No Property To Be Taken.

Petitioners allege that *Gila River IV* violates the Fifth Amendment by taking private property for public use, without compensation. Basic to any claim for compensation under the Fifth Amendment is ownership of the property that is allegedly taken. "Property interests . . . are not created by the Constitution. Rather, they are created and their dimensions are defined by existing rules or understandings that stem from an independent source, such as state law. . . ." *Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 161, 101 S. Ct. 446, 451, 66 L. Ed. 2d 358 (1980). Under

Arizona law, no party owns water, surface or underground. *Chino Valley II*; *Arizona Public Service Company v. Long*; *Arizona Water Company v. City of Bisbee*; and *Gila River I*. Since the Petitioners do not have property that can be taken, there can be no violation of the Fifth Amendment.

B. Changing The Interpretation Of State Common Law Does Not Constitute A Taking Of Property In Violation Of The Fifth Amendment.

Petitioners do not cite a single case, from any state or federal court, holding that a state supreme court's altering its interpretation of state common law constituted a taking of property, without compensation, in violation of the Fifth Amendment to the United States Constitution. A supreme court, whether this Court or a state supreme court, must retain the flexibility to make changes in its common law.

The Arizona Supreme Court has long recognized its ability and obligation to adjust its common law when necessity arises. In *Southwest Cotton*, the court observed:

> It is true that the common law is not in its nature and character an absolute, fixed, and inflexible system; it is rather a system of general juridical truths, founded on reason, natural justice, and enlightened public policy, which are conditionally explained with the progress of society, and which adapt themselves to the gradual changes of that society and the conditions, exigencies, and usages of the country. It is never entirely stationary, but is modified and extended by analogous construction and custom so as to embrace new relations springing up from time to time from an

> amelioration or change of society, or different physical conditions arising in the countries to which it is to be applied. Should it ever become so crystallized that its expressions must take the same form, irrespective of physical, social, or other conditions, peculiar to the locality or the character and habits of the people, it would cease to be the common law, and become a rigid and arbitrary code.

39 Ariz. at 81-82, 4 P.2d at 375. Thus, the very decision that created the subflow doctrine gave warning that common law could change, if change was needed.

This Court has also recognized that courts must be free to change common law. "The rule of stare decisis, though one tending to consistency and uniformity of decision, is not inflexible. Whether it shall be followed or departed from is a question entirely within the discretion of the court, which is again called upon to consider a question once decided." *Hertz v. Woodman*, 218 U.S. 205, 212, 30 S. Ct. 621, 622, 54 L. Ed. 101 (1910). In his dissenting and concurring opinion in *Baldwin v. New York*, 399 U.S. 117, 128, 90 S. Ct. 1914, 1920, 26 L. Ed. 2d 446 (1970), Justice Harlan explained:

> Woodenly applied, however, [*stare decisis*] builds a stockade of precedent that confines the law by rules, ill-conceived when promulgated, or if sound in origin, unadaptable to present circumstances. No precedent is sacrosanct and one should not hesitate to vote to overturn this Court's previous holdings — old or recent — or reconsidered settled dicta where the principles announced prove

> either practically [citations omitted] or jurisprudentially [cited omitted] unworkable, or no longer suited to contemporary life [citation omitted].

Pervasive changes in states' water laws have taken place over the last century, without creating any Fifth Amendment taking. In rejecting claims that a taking occurred because of the adoption of the Arizona Groundwater Management Act, the Arizona Supreme Court observed:

> Legislatures of various states have from time to time abolished the prevailing uses of groundwater and substituted other plans for its use. State courts have uniformly rejected the idea that groundwater percolating through the soil may not be limited and regulated and must be acquired by eminent domain. Village of Tequesta v. Jupiter Inlet Corp., 371 So.2d 663 (Fla.), cert. denied, 444 U.S. 965, 100 S.Ct. 453, 62 L.Ed.2d 377 (1979); Williams v. Wichita, 190 Kan. 317, 340-41, 374 P.2d 578, 595-96 (1962), cert. denied, 375 U.S. 7, 84 S.Ct. 46, 11 L.Ed.2d 38 (1963); Crookston Cattle Co. v. Minnesota Department of Natural Resources, 300 N.W.2d 769, 774 (Minn.1980); Baeth v. Hoisveen, 157 N.W.2d 728, 733 (N.D.1968); Knight v. Grimes, 80 S.D. 517, 523-27, 127 N.W.2d 708, 711-14 (1964).

Chino Valley II, 131 Ariz. at 83-84, 638 P.2d at 1329-1330.

A state supreme court's revision, or even reversal, of state common law does not constitute a taking of property without compensation, in violation of the Fifth Amendment.

CONCLUSION

There are no compelling reasons that would justify granting the Petition for Writ of Certiorari herein. Therefore, the Gila River Indian Community respectfully requests that the Court deny this Petition.

Respectfully submitted,

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In the

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

THE UNITED STATES, et al.,

Respondents.

On Petition for Writ of Certiorari to the Supreme Court of the State of Arizona

MOTION FOR LEAVE TO FILE BRIEF AMICUS CURIAE AND BRIEF AMICUS CURIAE OF PACIFIC LEGAL FOUNDATION IN SUPPORT OF PETITIONERS

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28 pp

QUESTION PRESENTED

Does a sudden, unpredictable and retroactive change in judicial precedent that revokes vested property rights in groundwater constitute a taking of private property without just compensation in violation of the Fifth Amendment to the United States Constitution?

MOTION FOR LEAVE TO FILE BRIEF AMICUS CURIAE IN SUPPORT OF PETITIONERS

Pursuant to Supreme Court Rule 37, Pacific Legal Foundation (PLF) respectfully moves this Court for leave to submit the attached brief amicus curiae in support of Petitioners, Phelps Dodge Corporation, et al.[1] Written consent for amicus participation in this case was granted by Arizona Public Service Company; Bella Vista Ranches, LLP; Bella Vista Water Co., Inc.; Central Arizona Irrigation and Drainage District; City of Pheonix; City of Tempe; Cortaro-Marana Irrigation District; Cortaro Water Users Assoc.; Helm & Kyle, Ltd.; Maricopa County Water Conservation District No. 1, et al.; New Magma Irrigation and Drainage District; Phelps Dodge Corporation; Rigby Water Co., Inc.; Roosevelt Irrigation District; The United States; Town of Gilbert; Town of Wickenburg; Valencia Water Co., Inc. Letters indicating consent have been lodged with the clerk of this Court. Written consent was denied by the Gila River Indian Community; San Carlos Apache Tribe; Tonto Apache Tribe, et al.; Yavapai Apache Nation, and the remaining parties have not responded.

INTEREST OF AMICUS CURIAE

Pacific Legal Foundation is the largest and most experienced nonprofit, public interest law foundation of its kind in America. Founded in 1973, PLF provides a voice in the courts for mainstream Americans who believe in limited government, private property rights, individual freedom, and free enterprise. PLF litigates nationwide in state and federal courts with the support of thousands of citizens from coast to coast. PLF is headquartered in Sacramento, California, and has

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[1] Pursuant to Supreme Court Rule 37.6, Amicus Curiae Pacific Legal Foundation affirms that no counsel for any party in this case authored this brief in whole or in part; and, furthermore, that no person or entity has made a monetary contribution specifically for the preparation or submission of this brief.

offices in Miami, Florida; Honolulu, Hawaii; Bellevue, Washington; and a liaison office in Anchorage, Alaska. PLF has a long history of advocacy before this Court and has participated in numerous cases involving the Takings Clause of the Fifth Amendment to the United States Constitution. For example, earlier this term, PLF attorneys represented Mr. Palazzolo in *Palazzolo v. Rhode Island* (99-2047) (decision pending). PLF attorneys represented the Nollans in *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); and Mrs. Suitum in *Suitum v. Tahoe Regional Planning Agency*, 520 U.S. 725 (1997).

PLF seeks to augment the arguments of Petitioners by discussing the concept of judicial takings as a significant federal issue that has not been resolved by this Court. PLF believes its public policy perspective and litigation experience will provide an additional viewpoint on the legal issues presented.

For the foregoing reasons, the motion of Pacific Legal Foundation to file a brief amicus curiae should be granted.

DATED: May, 2001.

Respectfully submitted,

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STATEMENT OF THE CASE

In 1974, a general adjudication of all rights to use water on the Gila River System was initiated in the State of Arizona. This adjudication is still continuing. It involves more than 66,000 claims by more than 24,000 claimants, and is one of the most complex legal proceedings ever adjudicated in the United States. Ultimately, this case will decide the amount of water to which users are entitled for farming, domestic, and other uses. Since Arizona has such an arid climate, the allocation of water is a very serious matter.

In the course of framing issues that would determine the future course of the adjudication, the trial court held hearings on the relationship between groundwater and surface water. This relationship is extremely important because of the nature of Arizona's water supply and the differences between surface water and groundwater in Arizona water law. Under Arizona law, surface water may be appropriated, but groundwater may not. Instead, landowners have a right to use the groundwater below their land for reasonable beneficial purposes without having to submit to the regulatory scheme that controls appropriation. This is significant because the water supply of the Gila River System is over appropriated. In other words, water users have appropriative rights to use more surface water than the system can supply. Thus, if the Arizona courts are permitted to redefine appropriable surface water to include water that was previously considered groundwater, landowners who rely on groundwater will lose their long-held right to reasonable use of such waters.

Water appropriation is governed by the principle of "first in time, first in right." Those who appropriate earlier have a higher right that is paramount over those who appropriate later. Thus, in times of shortage (which in Arizona is essentially all the time), later appropriators will not get as much water as prior appropriators. Since, in the past, groundwater use was not

governed by the law of appropriation, users of groundwater may have no priority to use surface water. Therefore, some groundwater users whose water is redefined to be appropriable surface water will be left without any right to use water whatsoever.

Unfortunately, this is exactly what has happened. The trial court that is overseeing the adjudication determined that surface water includes any water from the "subflow" zone of a stream. The "subflow" zone is very large and includes water being pumped and utilized miles away from the stream itself. Arizona law has never interpreted surface water to extend so far. Now, landowners who have been pumping groundwater for years with the understanding that Arizona law protects as property their right to use the water under their land must submit to an adjudicatory proceeding that threatens to entirely eliminate their rights.

On September 22, 2000, the Arizona Supreme Court affirmed the trial court's definition of surface water. Groundwater users argued before the Arizona Supreme Court that the trial court's definition of surface water redefined their property right so dramatically that it constitutes a taking of that right in violation of the Fifth Amendment. The Arizona Supreme Court rejected that argument in a single paragraph, asserting for the first time that there is no property right in the use of groundwater. The Petitioners have asked the United States Supreme Court to review the case because they claim the adjudication has resulted in their private property being taken for public use without just compensation in violation of the Takings Clause of the Fifth Amendment.

SUMMARY OF THE ARGUMENT

This case presents an important question of federal law that has not been, but should be, settled by this Court. Since the Fifth Amendment, through the Fourteenth Amendment, is a constitutional limitation on the power of the states, alleged infringements by states of the Fifth Amendment right not to

have one's private property taken for public use without just compensation are questions of federal law. This Court has often examined state acts to determine whether they go too far in violating constitutional provisions. This Court has specifically required such an inquiry when the issue is whether property has been taken in violation of the Fifth Amendment.

The United States Supreme Court has not explained whether the Fifth Amendment places any limitation on the power of state courts to redefine the nature of property. Nevertheless, earlier decisions of this Court, along with an important concurrence by Justice Stewart in *Hughes v. Washington*, 389 U.S. 290 (1967), have encouraged state and federal courts at every level to modify their decisions in order to avoid "judicial takings." In contrast, however, many courts, like the state court in this case, have issued decrees which change long-held property rights without regard for constitutional implications. Therefore, this Court should determine whether a court may take private property without the payment of just compensation by means of judicial fiat.

The case at bar raises the important federal question of "judicial takings" clearly. The Arizona Supreme Court has abandoned a narrow rule defining surface water that has been in effect for 70 years. By eliminating the requirement that appropriable underground water travel in water courses with well-defined banks, the Arizona Supreme Court has permitted changing principles of hydrology to extend the effective boundaries of the surface stream many miles away from the stream itself, far beyond what the law ever allowed previously. Consequently, wells that have been thought to pump groundwater, now risk being redefined as wells pumping surface water. As a result, many farmers who depend upon a source of groundwater that they thought was a legal right appurtenant to their title in land, will be deprived of the very font of their livelihood.

ARGUMENT

I

THE SCOPE OF ANY CONSTITUTIONAL LIMITATION ON SO-CALLED "JUDICIAL TAKINGS" IS AN IMPORTANT QUESTION OF FEDERAL LAW

The United States Supreme Court has recognized that "[p]roperty interests are created and defined by state law." *Butner v. United States*, 440 U.S. 48, 55 (1979). Nevertheless, when rights defined by state law are protected by the United States Constitution, the infringement of those rights becomes a question of federal law that is properly resolved by this Court. This is so even when the infringement is allegedly accomplished by state courts. In 1930, this Court explained:

> Whether the state court has denied to rights asserted under local law the protection which the Constitution guarantees is a question upon which the petitioners are entitled to invoke the judgment of this Court. Even though the constitutional protection invoked be denied on non-federal grounds, it is the province of this Court to inquire whether the decision of the state court rests upon a fair or substantial basis. If unsubstantial, constitutional obligations may not be thus evaded.

Broad River Power Co. v. South Carolina, 281 U.S. 537, 540-41 (1930) (citations omitted).

The property interest at issue in this case is the right to use water. The Arizona Supreme Court has acknowledged that the right to use groundwater is a property right. *See Bristor v. Cheatham*, 255 P.2d 173 (Ariz. 1953) (explaining that "many and large investments have been made in the development of ground waters. Under these circumstances the court's announcement of the rule becomes a rule of property, and rights

acquired thereunder should not be disturbed . . . ; when a decision does become a rule of property, the rights acquired thereunder are entitled to protection under the law as declared"); *Town of Chino Valley v. State Land Dept.*, 580 P.2d 704, 709 (Ariz. 1978) (recognizing that interests in the use of groundwater "are property rights"); and *see also In Re Rights to the Use of the Gila River*, 171 Ariz. 230, 235 (1992) ("Water rights are property rights."). As property, these water rights are protected by the Fifth Amendment to the United States Constitution and may not be "taken for public use without just compensation." U.S. Const. amend. V; *see United States v. Gerlach Live Stock Co.*, 339 U.S. 725, 752-54 (1950) (holding that owners of riparian water rights were entitled to compensation when a federal project deprived them of the use and flow of a stream); *see also Chicago, Burlington & Quincy Railroad Co. v. Chicago*, 166 U.S. 226 (1897) (finding that the Fifth Amendment applies to the states through the Fourteenth Amendment). Consequently, whether the courts of Arizona denied the protection the Constitution guarantees to these water rights is a proper question for this Court.

Although this Court may not "substitute its own view" of the state rule that defines property, the Court has repeatedly emphasized that it is proper "to inquire whether the decision of the state court rests upon a fair or substantial basis." *Broad River Power Co. v. South Carolina*, 281 U.S. at 540-41. As the Chief Justice, along with Justices Scalia and Thomas, recently explained,

> [t]hough we generally defer to state courts on the interpretation of state law–*see, e.g., Mullaney v. Wilbur*, 421 U.S. 684, 44 L. Ed. 2d 508, 95 S. Ct. 1881 (1975)–there are of course areas in which the Constitution requires this Court to undertake an independent, if still deferential, analysis of state law.

Bush v. Gore, 121 S. Ct. 525, 535 (2000) (Rehnquist, C. J., concurring). More particularly, where constitutional rights have been an issue, this Court has searched the decisions of state courts to determine whether the holdings of state courts could be reconciled with state law precedent or, instead, whether the scope of state law had been suddenly, unconstitutionally broadened. *See, e.g., Bush v. Gore*, 121 S. Ct. at 535 (Rehnquist, C. J., concurring) (discussing *Bouie v. City of Columbia*, 378 U.S. 347 (1964), and *National Association for the Advancement of Colored People v. Alabama ex rel. Patterson*, 357 U.S. 449 (1958)).

This practice of searching state law has particular meaning in the context of the Takings Clause of the Fifth Amendment. As Chief Justice Rehnquist, and Justices Scalia and Thomas, explained, the Supreme Court's

> jurisprudence requires us to analyze the "background principles" of state property law to determine whether there has been a taking of property in violation of the Takings Clause. That constitutional guarantee would, of course, afford no protection against state power if our inquiry could be concluded by a state supreme court holding that state property law accorded the plaintiff no rights.

Bush v. Gore, 121 S. Ct. at 535 n.1 (Rehnquist, C. J., concurring). Consequently, this Court has reviewed the legislative and regulatory acts of state and local governments to determine whether they violate property rights and require just compensation for property owners. *See, e.g., Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992) (involving South Carolina's Beachfront Management Act); *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987) (concerning permit conditions imposed by a regulatory agency). However, the Court has said very little about any constraints the Fifth Amendment may place on the acts of state courts.

Nevertheless, it seems clear that the judiciary is just as capable of violating constitutional rights as are the legislative and executive branches of government. *See Shelley v. Kraemer*, 334 U.S. 1, 20-21 (1948) (prohibiting the courts from enforcing racial discrimination); *Cantwell v. Connecticut*, 310 U.S. 296, 306 (1940) (prohibiting courts from restraining freedom of speech pursuant to statute). But, this Court has offered little guidance as to how far a court may go in defining and redefining property rights.

Since "[i]t is emphatically the province and the duty of the judicial department to say what the law is," *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803), it falls to this Court, ultimately, to say what limitations, if any, the Fifth and Fourteenth Amendments place on the power of state courts to redefine the nature of property.

II

THIS COURT HAS NOT ADDRESSED THE SCOPE OF "JUDICIAL TAKINGS"

In *Muhlker v. New York & H. R. Co.*, 197 U.S. 544 (1905), this Court confronted the problem of retroactive changes in state property law made by state courts. The New York Court of Appeals had denied compensation to landowners when elevated railroads had been constructed over their property, rejecting judicial precedents that guaranteed compensation. In addressing this problem, four members of this Court exclaimed:

> When the plaintiff acquired his title those cases were the law of New York, and assured to him that his easements of light and air were secured by contract as expressed in those cases, and could not be taken from him without payment of compensation.
>
> And this is the ground of our decision. We are not called upon to discuss the power or the limitations upon the power, of the courts of New

> York to declare rules of property or change or modify their decisions, but only to decide that such power cannot be exercised to take away rights which have been acquired by contract and have come under the protection of the Constitution of the United States.

Muhlker, 197 U.S. at 570. This language suggests that the Fifth Amendment prohibits state courts from modifying state property law in a way that takes away vested rights. But, it is only the opinion of four justices. In contrast, a dissent from Justice Holmes took the opposite view and also represented the views of four justices. According to Justice Holmes, the nature of property rights is so thoroughly a question of state law that the Court is "bound by the distinctions and the limitations of those rights declared by the local courts," and state courts can change the nature of property rights without being constrained by the Constitution. *Muhlker*, 197 U.S. at 572-77. Since each view commanded an equal number of votes, it is unclear from *Muhlker* what, if any, constraints the Fifth and Fourteenth Amendments place on the power of judges to retroactively change the nature of property.[2]

Unfortunately, in the 96 years since *Muhlker*, the problem of "judicial takings" has not become more clear. To the contrary, this area of jurisprudence has produced only doubtful precedent. For example, this Court has never overturned a judicial change in state property law on Fifth Amendment grounds, or required just compensation, even if the change had a significant impact on vested rights. Rather, some cases even suggest that the Constitution cannot restrict changes in the common law because the common law is by its nature changing. *See, e.g.*, *Brinkerhoff-Faris Trust & Savings Co. v. Hill*, 281 U.S. 673

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[2] Justice Brown concurred with the justices that found a taking, but only in the result. No group of justices commanded a majority as to the basis for the decision.

(1930). Nevertheless, in 1967, Justice Potter Stewart wrote a concurrence in *Hughes v. Washington*, 389 U.S. 290, that has seemingly given life to the concept of "judicial takings."

In *Hughes v. Washington*, the owner of oceanfront property in the State of Washington brought suit against the state to determine whether the right to accretions was controlled by state or federal law. Under federal law, accretions belonged to the owner, but under state law, they belonged to the state. The Supreme Court of Washington had found that state law controlled and interpreted the state's constitution to deny the owners of oceanfront property in the state any further rights in future accretions. The United States Supreme Court reversed, holding that the question was governed by federal, not state, law, and that under federal law, the property owner, who traced her title to a federal grant prior to statehood, was the owner of accretions. However, Justice Stewart's concurring opinion has become more significant than the opinion of the majority.

In concurrence, Justice Stewart proclaimed that states cannot take property by simply redefining it. When a state makes a decision about the nature of property that

> arguably conforms to reasonable expectations, we must of course accept it as conclusive. But to the extent that it constitutes a sudden change in state law, unpredictable in terms of the relevant precedents, no such deference would be appropriate. For a State cannot be permitted to defeat the constitutional prohibition against taking property without due process of law by the simple device of asserting retroactively that the property it has taken never existed at all.

Hughes v. State of Washington, 389 U.S. at 296-97 (Stewart, J., concurring).

Since *Hughes*, this Court has declined to address the question of "judicial takings," despite opportunities to do so. According to Professor Barton Thompson, "the Court has so far declined all offers to revisit the issue."

> Indeed, the Court treated the one judicial takings case that it has heard since Hughes as a traditional takings challenge—never mentioning the difficult issue of whether judicial changes in the law may violate the takings protections. . . . *Pruneyard* [*Shopping Center v. Robins*, 447 U.S. 74 (1980)] was a judicial takings case . . . . Yet the United States Supreme Court entirely ignored the question of whether judicial changes in the law are even subject to the takings protections. Instead, the Court treated the case as presenting a conventional takings question and concluded that, although there had "literally been a 'taking'" of property, the taking did not unreasonably impair the value or use of the shopping center and thus was not unconstitutional.

Barton H. Thompson, Jr., *Judicial Takings*, 76 Va. L. Rev. 1449, 1469-70 (1990).

Although this Court has not addressed the "judicial takings" question, it has cited Justice Stewart's concurrence in *Hughes* with approval. In *Hughes*, Justice Stewart stated:

> Although the State in this case made no attempt to take the accreted lands by eminent domain, it achieved the same result by effecting a retroactive transformation of private into public property–without paying for the privilege of doing so. Because the Due Process Clause of the Fourteenth Amendment forbids such confiscation by a State, no less through its courts than through its legislature, and no less when a taking is unintended than when it is deliberate, I join in reversing the judgment.

389 U.S. at 298. This language found its way into the Court's opinion in *Bonelli Cattle Co. v. Arizona*, 414 U.S. 313 (1973). Although this Court found the issue "unnecessary to decide," it offered Justice Stewart's statement for the proposition that recognizing Arizona's sudden claim to a portion of submerged riverbed "would raise a serious constitutional issue as to whether the State's assertion of title is a taking without compensation." *Bonelli*, 414 U.S. at 331. Although *Bonelli* was subsequently overruled, and *Hughes* limited by *Oregon v. Corvallis Sand & Gravel Co.*, 429 U.S. 363 (1977), the Court's inclusion of this passage gives added weight to the notion that the Constitution does indeed place limits on the ability of state courts to redefine property.

Despite these many clues about the meaning of the Fifth Amendment as a constraint on judicial action, this Court has not resolved the issue. At present, there is significant uncertainty as to how, if at all, the Takings Clause limits state courts. This Court should grant the petition for writ of certiorari in this case in order to clearly define these limits.

III

THIS COURT SHOULD ADDRESS THE SCOPE OF "JUDICIAL TAKINGS" IN THIS CASE BECAUSE OF THE IMPACT THE CONCEPT IS HAVING ON STATE AND FEDERAL COURTS AND BECAUSE THE ARIZONA SUPREME COURT HAS REDEFINED STATE PROPERTY LAW SO DRAMATICALLY THAT PRIVATE PROPERTY WILL BE TAKEN

A. Despite the Lack of Guidance from This Court, Courts Throughout the Nation Are Applying the Concept of "Judicial Takings" with Mixed Results

The District of Columbia Circuit summed up the problem when it declared in 1987 that "the question of whether courts, as opposed to legislative bodies, can ever 'take' property in

violation of the Fifth Amendment is an interesting and by no means a settled issue of law." *Corp. of Presiding Bishop of the Church of Jesus Christ of Latter-Day Saints v. Hodel*, 830 F.2d 374, 381 (D.C. Cir. 1987). Despite the fact that the issue is unsettled, federal and state courts throughout the United States are deciding cases based upon the scant precedent that exists.

In *Sotomura v. County of Hawaii*, 460 F. Supp. 473 (D. Haw. 1978), the District Court of Hawaii held that the Supreme Court of Hawaii had taken beach property from the owners by ruling that the seaward line that separated public from private property was located at the vegetation line rather than the mean high tide line. *Sotomura*, 460 F. Supp. at 482. Specifically, the court held that

> [t]he Hawaii Supreme Court's retroactive application of the Ashford standards to locate the seaward boundary of property at the vegetation line, following erosion, ignoring vested property rights and without determining the extent of actual erosion, was so radical a departure from prior state law as to constitute a taking of the Owners' property by the State of Hawaii without just compensation in violation of rights secured to them by the Fourteenth Amendment to the United States Constitution.

Id. at 482-83. The *Sotomura* court even declared that

> [i]n an appropriate case, it now appears that the United States Supreme Court today would probably vote with Mr. Justice Stewart in ruling that a taking of private property through a radical and retroactive change in state law, effected by judicial decision, is an unconstitutional taking. Justices Marshall and White, the dissenters in *Oregon*, might even agree since they stated there:

> Stare decisis should be more than a fine sounding phrase. . . . Accordingly, "(a) substantial departure from precedent can only be justified . . . in the light of experience with the application of the rule to be abandoned or in the light of an altered historic environment" (Quoting from *Mitchell v. W. T. Grant Co.*, 416 U.S. 600 at 634-635, 94 S. Ct. 1895, 40 L. Ed. 2d 406). Such admonitions are even more salient where land titles are concerned.

Id. at 481 (quoting *Corvallis Sand*, 429 U.S. at 394-95). The United States Court of Appeals for the Ninth Circuit reached a similar conclusion in *Robinson v. Ariyoshi*, holding that a state must bring condemnation proceedings before it may interfere with vested rights. 753 F.2d 1468, 1475 (9th Cir. 1985), *vacated*, 477 U.S. 902 (1986).

Justice Stewart's concept of judicial takings has grown to have influence not only in federal courts, but also in state courts. Numerous state courts have refused to overrule prior precedents out of concern that doing so might violate the provisions of the Fifth Amendment. *See, e.g., Bott v. Natural Resources Comm'n*, 327 N.W.2d 838, 849-53 (Mich. 1982) (refusing to expand public access to waterways); *Oregon v. Corvallis Sand & Gravel Co.*, 582 P.2d 1352, 1363 (Or. 1977) (refusing to change rules concerning ownership of riverbeds in case of avulsion); and *Dolphin Lane Assoc. v. Town of Southampton*, 339 N.Y.S.2d 966, 975 (1971) (refusing to change dividing line between public and private beach), *aff'd*, 351 N.Y.S.2d 364 (1973), *modified*, 37 N.Y.S.2d 292, 3 (1975). In contrast, where state courts have suddenly modified state property law, dissenting judges have complained using takings arguments. *See, e.g., Van Ness v. Borough of Deal*, 393 A.2d 571, 577-78 (N.J. 1978) (Mountain, J., dissenting); and *Hawaii v.*

Zimring, 566 P.2d 725, 756 (Haw. 1977) (Vitousek, J., dissenting).

Plainly, the notion of "judicial takings" has had a real influence on our nation's courts. Both federal and state courts are unclear as to how they should proceed. Some federal courts have found "judicial takings," while many state courts, wary of violating Justice Stewart's opinion, have failed to act. Other state courts have acted to change state property law in the face of dissents claiming that the decisions are unconstitutional under Justice Stewart's rule.

When the meaning of a provision of the Constitution is so unclear that courts throughout the nation don't know how or if the rule applies, providing clarity should be an urgent concern of this Court. As Professor Hellman has explained, "the fact that a federal statute has been enacted, or a constitutional provision adopted, tells us that the American people have made a decision that a matter should be dealt with in the same way throughout the nation." Arthur D. Hellman, *By Precedent Unbound: The Nature and Extent of Unresolved Intercircuit Conflicts*, 56 U. Pitt. L. Rev. 693, 757 (1995).

Rather than deal with "judicial takings" "in the same way throughout the nation," each court seems to choose its own rule, or ignore the question altogether. This must be wrong. Either the Fifth Amendment limits the power of state courts to suddenly change state property law, or it does not. Only this Court can decide whether, and how, the Fifth Amendment applies to these cases. Therefore, this Court should provide a clear rationale for distinguishing permissible judicial modifications to property from the impermissible. This case provides a good opportunity for the Court to do this.

B. This Case Presents a Good Opportunity for Resolving the Problem of "Judicial Takings," Because the Changes in Precedent Are Clear, and the Impacts on Property Are Severe

The traditional principles governing Arizona groundwater law were defined by the Arizona Supreme Court in *Maricopa County Municipal Water Conservation District No. 1 v. Southwest Cotton Co.*, 4 P.2d 369 (Ariz. 1931), in which the court ruled that, with narrow exceptions, groundwater was not subject to appropriation with surface water. It is clear that the *Southwest Cotton* court understood the magnitude of its task to clearly define water rights. The court explained:

> The case is one of the most important which has ever come before this court, involving as it does not only property interests of the value of many millions of dollars, but also a declaration of legal principles which will in all probability determine and govern to a great extent the course of future agricultural development within the arid regions of Arizona. . . . We think, however, this case is proof that the time has come when it is necessary for the protection and guidance of future agricultural development in the state that these principles should be enunciated as clearly and definitely as possible, so that our citizens may know how to guide their future procedure.

Southwest Cotton, 4 P.2d at 372.

The *Southwest Cotton* court believed that a clear enunciation of legal principles was necessary to protect future agricultural development in the state. Moreover, the court decided the differences between surface water and groundwater with the understanding, and expectation, that the rule it declared would be relied upon. Unfortunately, after the decision by the

Arizona Supreme Court in this case, *Southwest Cotton* no longer governs.

In *In re General Adjudication of All Rights to Use Water in the Gila River System and Source*, 989 P.2d 739 (Ariz. 1999), the Arizona Supreme Court said it perceived its role as "'interpreting *Southwest Cotton*, not refining, revising, correcting, or improving it.'" *Id.* at 744 (quoting *In re General Adjudication of All Rights to Use Water in the Gila River System and Source*, 857 P.2d 1236, 1243-47 (Ariz. 1993)). Yet in this case, the Arizona Supreme Court has made significant revisions in the rules announced by *Southwest Cotton*, rules that had been in place for 70 years. Specifically, the Arizona Supreme Court has abandoned any requirement that appropriable groundwater be confined in "well-defined channels."

From the earliest point in Arizona law, which derived from the rules of Mexican law that were in existence at the time Arizona became a state, the state could authorize the appropriation of underground waters only if they ran in definite channels. *See Southwest Cotton*, 4 P.2d at 374. In furtherance of this policy, the Legislature adopted Article 22 of the Bill of Rights, which permitted the Legislature to allow appropriation of "'[a]ll streams, lakes, and ponds of water capable of being used for the purposes of navigation or irrigation.'" *Id.* at 373. In *Southwest Cotton*, the Arizona Supreme Court made it clear that if this power over appropriation is to extend to underground waters, it must include only those underground waters that are similar to "streams, lakes and ponds."

> We hold, therefore, that article 22 of the Bill of Rights applies only to surface rivers, lakes and ponds, as the words are ordinarily understood, *and to subterranean waters of a similar character*, and that its effect was to establish the doctrine of prior appropriation for such waters, and for them only,

> leaving percolating subterranean waters of all kinds untouched thereby.

Id. at 374 (emphasis added). The court made especially clear that the power of appropriation was not to extend to those waters that would be difficult to define as surface water by the regular people who would actually use the water.

> It is unreasonable to attribute to the legislature in 1864 a purpose to use nontechnical language to express an idea which would not be anticipated by the men who were to be governed in their actions by that language; and to assume that in the use of words "rivers, creeks or streams," and "rivers, lakes or ponds" it intended to include something which by common understanding was given an entirely different classification would be absurd.

Id. Accordingly, appropriation of underground water was only permissible where the water flowed in "definite underground channels." Section 3280, Revised Code of 1928. The same rule applies today, or would apply today but for the Arizona Supreme Court's decision in this case. *See, e.g.*, Ariz. Rev. Stat. § 45-101 (2000) (specifying that "[g]roundwater does not include water flowing in underground streams with ascertainable beds and banks," and defining "surface water" to include water flowing in "definite underground channels"). Traditionally, the water "flowing in natural channels between well-defined banks," with known boundaries was subject to appropriation. *Southwest Cotton*, 4 P.2d at 376 (quoting *McKenzie v. Moore*, 176 P. 568 (Ariz. 1918)). But water that does not flow between well-defined banks would not be subject to appropriation.

This basic rule was preserved by the Arizona Supreme Court in *Southwest Cotton*. The *Southwest Cotton* court considered one of the "essential characteristics of a watercourse" to be "a channel, consisting of a well-defined bed and banks." *Id.*

at 376. While many different factors could be considered in determining the location of underground channels, each of them,

> when examined, must be such as to afford clear and convincing proof to the satisfaction of a reasonable man, not only that there are subterranean waters, but that such waters have a definite bed, banks and current within the ordinary meaning of the terms.

Id. at 377. Despite this requirement, the same court has abandoned this rule in the present case. Instead, the rule imposed by the Arizona courts depends entirely upon whether "drawing off the subsurface water tend[s] to diminish appreciably and directly the flow of the surface stream." *In General Adjudication of All Rights to Use Water in the Gila River System and Source*, 9 P.3d 1069, 1074 (Ariz. 2000). If taking groundwater does affect the surface stream, the Arizona court considers it surface water, regardless of whether it flows in "a channel, consisting of a well-defined bed and banks."

The *Southwest Cotton* court viewed its rule as being so narrowly drawn that "[i]n almost all cases the so-called subflow is found within, or immediately adjacent to, the bed of the surface stream itself." *Southwest Cotton*, 4 P.2d at 381. The *Southwest Cotton* court referred to a California case, *City of Los Angeles v. Pomeroy*, 57 P. 585 (Cal. 1899), to describe the extreme outer boundary of how broadly it believed the rule it declared could be applied. In *Pomeroy*, the San Fernando Valley of California had at its lower end "a gorge, about two miles wide, through which all the waters of the valley eventually flow[ed]." *Southwest Cotton*, 4 P.2d at 381. Because all the water of the valley flowed through the gorge, the water course had defined banks. The evidence showed that the water claimed to be subflow "lay substantially beneath the surface of the bed of the Los Angeles River." *Id.* The *Southwest Cotton* court found that in this situation, where the

water passage was two miles wide, with defined banks, and the water flowed substantially underneath the surface stream, "the doctrine of subflow ha[d] been extended as far as it [could] reasonably be carried." *Id.*

The Arizona Supreme Court has gone much farther than the narrow rule of *Southwest Cotton* would allow. Where *Southwest Cotton* found a two-mile wide water course to be the outer boundary of what would be permissible, in this case, appropriable surface water could be as far as six miles away from the "subflow zone" that the trial court defined, which is even farther from the river itself. Petition for Writ of Certiorari of Phelps Dodge Corporation and Arizona Public Service Company at 15. Where *Southwest Cotton* would require well-defined banks for underground streams, in this case, the banks of the stream are irrelevant–no reference to them is made in the Arizona Supreme Court's new rule. Whereas the *Southwest Cotton* court would require subflow to be substantially beneath the surface stream, in this case, subflow can be many miles from the surface stream.

Rather than recognize the legal rights defined in *Southwest Cotton*, the Arizona courts in this case have endeavored to conform those rights to what science sees as "hydrological reality." *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 9 P.3d at 1073. The Arizona Court acknowledged that "even though *Southwest Cotton* may be based on an understanding of hydrology less precise than current theories, it would be inappropriate to undo that which has been done in the past." *In re General Adjudication of All Rights to Use Water in the Gila River System & Source*, 857 P.2d at 1243. Nevertheless, the Arizona court has approved a new rule that will permit the contours of property to change with every scientific advancement. As hydrologists become more capable of detecting the influence of distant wells on surface streams, the property rights of groundwater users will continually shrink.

By abandoning the requirement that appropriable underground water be in well-defined banks substantially beneath the surface stream, the Arizona Supreme Court has changed the way surface water is distinguished from groundwater. Consequently, some of those who formerly pumped groundwater will be considered to be pumping surface water and will lose their property rights in water in the course of this adjudication.

CONCLUSION

Because this case involves an important question of federal law that has not been, but should be, settled by this Court, the petition for writ of certiorari should be granted.

DATED: May, 2001.

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In The

Supreme Court of the United States

PHELPS DODGE CORPORATION and
ARIZONA PUBLIC SERVICE COMPANY,

Petitioners,

v.

THE UNITED STATES, et al.,

Respondents.

**On Petition For Writ Of Certiorari
To The Supreme Court
Of The State Of Arizona**

PETITIONERS' REPLY MEMORANDUM

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CORPORATE DISCLOSURE STATEMENT

The corporate disclosure statement required by Rule 29.6, Rules of the Supreme Court of the United States, is included in Petition No. 00-1464 at page vi. The information in that statement remains accurate.

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Petitioners Phelps Dodge Corporation and Arizona Public Service Company respectfully submit this Reply Memorandum in support of their Petition for Writ of Certiorari in Case No. 00-1464. Four briefs in opposition to the Petition were filed with this Court. The Respondents in Opposition are the United States; the Gila River Indian Community ("GRIC"); the San Carlos Apache Tribe, Tonto Apache Tribe and Yavapai-Apache Nation ("the Apache Respondents"); and the Salt River Valley Water Users' Association and Salt River Project Agricultural Improvement and Power District ("SRP").

The Briefs in Opposition raise several issues not previously addressed by Petitioners. Accordingly, pursuant to Rule 15.6, Rules of the Supreme Court of the United States, Petitioners submit this Reply to address those issues. Respondents' arguments in opposition to the Petition fall into three main categories. First, several Respondents argue that Petitioners, and other similarly situated groundwater users, do not "own" groundwater underlying their land. Second, two Respondents argue that the Opinion Below is not a final judgment under 28 U.S.C. § 1257(a). Finally, two Respondents argue that Petitioners' takings claim is not ripe for adjudication.

I. PETITIONERS ASSERT A RIGHT TO *USE* GROUNDWATER, NOT A RIGHT TO OWN GROUNDWATER.

Each of the Respondents argues that Petitioners do not "own" groundwater under Arizona law. Respondents rely in large part on *Town of Chino Valley v. City of Prescott*, 638 P.2d 1324 (Ariz. 1981) ("*Chino Valley II*") for this proposition. Petitioners do not, however, argue that they "own" groundwater. Rather, Petitioners have well-defined property interests in the *use* of groundwater. This is precisely the same interest (*i.e.*, a right to use, rather than outright ownership of water) enjoyed by surface water appropriators. *See* Ariz. Rev. Stat. § 45-141.A. ("The

waters of all sources . . . belong to the public . . . "). The Gila River Indian Community's Response concedes as much. *See* GRIC Resp. at 24-25 ("Under Arizona law, no party owns water, surface or underground.").

Just as surface water appropriators do not enjoy a right of ownership in the water itself, but rather a right to make beneficial use of that water, so too do landowners enjoy a right to reasonably use percolating groundwater. This point is stated explicitly in *Chino Valley II*, where the Arizona Supreme Court held that a landowner's interest in percolating groundwater is a right "to the usufruct of the water." 638 P.2d at 1328. Moreover, as the United States Court of Federal Claims has recently recognized, such "usufructuary" rights are property interests entitled to protection under the Fifth Amendment. *See Tulare Lake Basin Water Storage Dist. v. United States*, No. 98-101 L, 2001 U.S. Claims LEXIS 72, at *20 (Fed. Cl. Apr. 30, 2001) (quoting *International Paper Co. v. United States*, 282 U.S. 399, 407 (1931) ("The petitioner's right was to the use of the water; and when all the water that it used was withdrawn from the petitioner's mill and turned elsewhere by government requisition for the production of power it is hard to see what more the Government could do to take the use.").

Although the usufructuary right to make reasonable use of percolating groundwater is subject to *prospective* regulation under a state's police power, *see Chino Valley II*, 638 P.2d at 1327, it is *not* subject to retroactive revocation by a court that has uniformly recognized the right in all prior cases. As this Court recently stated, "a State may not sidestep the Takings Clause by disavowing traditional property interests long recognized under state law." *Phillips v. Washington Legal Found.*, 524 U.S. 156, 167 (1998).[1]

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[1] The United States suggests that this Court should not review the Opinion Below because the Arizona Supreme Court "did not disavow any of its prior holdings." U.S. Resp. at 13. However, merely because the court asserted that the Opinion

Because the Arizona Supreme Court has effectively vitiated the right to make reasonable use of groundwater, the Opinion Below constitutes a taking of the usufructuary rights of Petitioners and millions of other Arizona citizens.

II. THE ARIZONA SUPREME COURT'S DISPOSITION OF THE TAKINGS ISSUE IN THE OPINION BELOW CONSTITUTES A FINAL JUDGMENT.

The United States and SRP each argue that the question presented by Petitioners does not constitute a final judgment under 28 U.S.C. § 1257(a). *See*, U.S. Resp. at 8-11; SRP Resp. at 5-13.[2] GRIC does not address this

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Below is consistent with its prior precedents does not make it so. This Court has, in appropriate circumstances, shown a willingness to review state supreme court decisions that break with established precedent, particularly where important federal constitutional rights are at stake. *See, e.g., Bouie v. City of Columbia*, 378 U.S. 347, 354 (1964) ("an unforeseeable and unsupported state-court decision on a question of state procedure does not constitute an adequate ground to preclude this Court's review of a federal question"); *Wright v. Georgia*, 373 U.S. 284, 291 (1963); *N.A.A.C.P. v. Alabama*, 357 U.S. 449, 456-58 (1958).

[2] SRP's facile argument on this issue is unpersuasive. SRP asserts that last term when it pursued a petition for certiorari (No. 99-1389) arising out of these very same proceedings, that decision was final. Now, when it opposes the pending Petition, it asserts that the question presented by Petitioners is not final, stating that the "facts and policies applicable to a consideration of the finality issue . . . are substantially different." SRP Resp. at 11, n.14. SRP does not, however, identify any differences. SRP then asserts that some future cases arising out of the Arizona Supreme Court's interlocutory review of specific questions in the adjudications "may qualify for immediate review." SRP Resp. at 13, n.15. SRP's position on finality is internally inconsistent and self-serving. More persuasive was SRP's argument in support of its Petition No. 99-1389, where it stated

issue. The Apache Respondents affirmatively state that "the method of determining subflow is a final judgment of the Arizona Supreme Court. . . . " Apache Resp. at 14.

As the Apache Respondents appear to concede, the question presented by the Petitioners is, under the relevant precedents of this Court, final for purposes of Section 1257(a). The seminal case discussing finality is *Cox Broadcasting Corp. v. Cohn*, 420 U.S. 469 (1975). *Cox* reviewed the Court's finality jurisprudence and noted that "[t]here are now *at least* four categories of such cases in which the Court has treated the decision on the federal issue as a final judgment for the purposes of 28 U.S.C. § 1257 and has taken jurisdiction without awaiting the completion of the additional proceedings anticipated in the lower state courts." *Id.* at 477 (emphasis added).

Cox did not purport to require that each federal question fit definitively within one of the four described categories. Rather, the Court stated that it long had "held that the requirement of finality is to be given a practical rather than a technical construction." *Id.* at 478, n.7 (quoting *Gillespie v. United States Steel*, 379 U.S. 148, 152 (1964) and *Cohen v. Beneficial Indus. Loan Corp.*, 337 U.S. 541, 546 (1949)) (internal quotation marks omitted). *Cox* also noted that "the Court had not understood the final-judgment rule 'in this strict and technical sense, but has given [it] a more liberal, and, as we think, a more reasonable construction, and one more consonant to the intention of the legislature.' " *Id.* at 480-81 (quoting *Forgay v. Conrad*, 47 U.S. (6 How.) 201 (1848)) (alteration in original).

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that "[d]eferring review by this Court of federal issues involved in the pending Arizona adjudications until all state court proceedings on such issues have been concluded would leave the parties in limbo for decades." SRP Reply to Briefs in Opposition, No. 99-1389, at 7.

A. The Issues Raised by Petitioners Fall Within the Second *Cox* Category of Final Judgments.

The question presented by Petitioners in this case falls squarely within the second category discussed in *Cox*. That category was described in *Cox* as including cases "in which the federal issue, finally decided by the highest court in the State, will survive and require decision regardless of the outcome of future state-court proceedings." *Cox*, 420 U.S. at 480.

In the case now before this Court, the federal issue (whether a taking has occurred), has undeniably been finally decided by the Arizona Supreme Court. That question undoubtedly will survive and require decision regardless of subsequent litigation in the Gila River General Stream Adjudication. However, given the nature of the Adjudication, it may be many years before Petitioners or other similarly situated groundwater users would be able to again present the takings issue to this Court. It is precisely for this reason that the Arizona Supreme Court's decision on the takings issue should be considered a final judgment under Section 1257(a) and be reviewed by the Court at this time.

The Arizona Supreme Court left no doubt as to its views on the takings issue. In a single paragraph of a lengthy opinion, the court simply stated that it was "reject[ing]" Petitioners' takings argument. Opinion Below, ¶ 47, App. A33. The court offered no basis for this rejection other than its statement that "landowners have 'no legally recognized property right in potential, future groundwater use. . . . ' " *Id.* (quoting *Chino Valley II*, 638 P.2d at 1328). This statement, of course, is the basis for one of Petitioners' takings arguments. Both the Petitioners and Respondent ASARCO filed motions for reconsideration on the takings issue. The motions were rejected by the court without explanation.

From this summary disposition, it is clear that the Arizona Supreme Court will not again revisit the takings

issue. Unless this Court reverses the Opinion Below, it will provide the rules for all further proceedings in the Gila River Adjudication[3] concerning water pumped from wells pursuant to state law. The lower courts conducting the adjudications are not at liberty to deviate from the supreme court's determinations regarding the over-broad subflow zone, its cones of depression analysis, or its conclusion that landowners have no legally recognized property right in groundwater.

Those determinations inevitably will lead to injunctions against wells either located in, or with cones of depression extending into, the supreme court's new subflow zone.[4] In the context of these adjudications, which have already been under way for more than 20 years, Petitioners and other groundwater users should not be put at risk of such injunctions and be forced to renew their takings claims in a state court system that already has clearly rejected those claims. The extended delay inherent in such a process may well lead to the financial ruin of any party so enjoined, because without water, it is impossible to make any economically viable use of one's land in an arid state like Arizona.

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[3] The Opinion Below also may apply in the general stream adjudication pending in Arizona's Little Colorado River Basin. *See* Petition at 5, n.1. *See also* SRP Resp. at 2.

[4] SRP's suggestion that the lower courts may "excuse noncompliance with statutory requirements" by "assign[ing] a priority date based upon when the well was drilled" (SRP Resp. at 9, n.13) provides no comfort to Petitioners and other groundwater users. There is no statutory basis for assigning priority dates to wells, and even if SRP would accede to such a result, there is no guarantee (or any likelihood) that all other surface water appropriators in the State of Arizona would do so.

B. Because Arizona's General Stream Adjudications May Continue Indefinitely, Petitioners Would Be Denied Effective Relief if Forced to Await Completion of the Proceedings.

For similar reasons, SRP's suggestion that this Court defer "any review of *Gila River IV* until the end of the adjudication" (SRP Resp. at 9) would provide no meaningful remedy for Petitioners. In fact, there may never be an "end of the adjudication." Even after determination of all 77,000 water rights claims asserted in the two adjudications (a process that has not yet progressed to the point where a single water right has been adjudicated), the courts will be faced with the potentially perpetual task of enforcing those rights among users with conflicting claims to the same water supply. Thus, the adjudication courts can be expected to retain jurisdiction indefinitely and to actively adjudicate conflicts far into the future.[5]

By comparison, a water rights adjudication of limited scope has been pending in the United States District Court for the District of Arizona since 1925. That action, commonly referred to as *Globe Equity No. 59*, addresses the claims of several thousand parties who use water from the mainstem of the Gila River. As such, it involves only a subset of the more than 24,000 claimants involved in the Gila River Adjudication (which includes not only the mainstem of the Gila River, but also several important tributary streams such as the Salt and Verde Rivers). Nevertheless, *Globe Equity No. 59* has endured for more than

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[5] For this reason, *Jefferson v. City of Tarrant*, 522 U.S. 75 (1997), is inapplicable to the present case. There, in the context of a "typical" tort suit involving a limited number of parties, the Court noted that "[i]f the federal question does not become moot, petitioners will be free to seek our review when the state-court proceedings reach an end." *Id.* at 77-78. Because the adjudications may never end, the same cannot be said for the issues currently before the Court.

sixty-five years. Active litigation between the parties continues to this day. At least eight reported decisions have been issued by either the District Court or the Ninth Circuit during that time. If *Globe Equity No. 59* can continue for sixty-five years without any "end" in sight, there is no credible possibility that either Adjudication will end in a time or manner that would provide Petitioners with a meaningful opportunity to have their takings arguments heard at the conclusion of the proceedings.

For all of these reasons, the Arizona Supreme Court's rejection of Petitioners' takings claims should be considered a final judgment. This Court has on two prior occasions granted certiorari to address important federal issues arising at interlocutory stages of pending water rights adjudications. *See Wyoming v. United States*, 488 U.S. 1040 (1989), *aff'd without opinion*, 492 U.S. 406 (1989); *United States v. New Mexico*, 438 U.S. 696 (1978). The Court did so in spite of the fact that both adjudications were ongoing and that not all federal issues had been resolved at the time of review. Presumably, the Court in those instances recognized that the "danger of denying justice by delay[ing]" review outweighed any argument that the issues at stake were not final. *Cox*, 420 U.S. at 478, n.7 (internal quotation marks omitted). Because rejection of this Petition also would "deny justice by delay," the Court should treat the Opinion Below as a final judgment pursuant to Section 1257(a).

III. THE TAKINGS ISSUE IS RIPE FOR REVIEW BY THIS COURT.

SRP also asserts that the question presented by Petitioners is not ripe for review at this time. The Apache Respondents make a similar argument. In support of this argument, SRP cites *MacDonald, Sommer & Frates v. Yolo County*, 477 U.S. 340 (1986), *Williamson County Reg'l Planning Comm'n v. Hamilton Bank*, 473 U.S. 172 (1985), and a number of earlier cases addressing ripeness in the context of a Fifth Amendment takings claim. However, SRP fails to

explain, or even acknowledge, this Court's most recent decision on this subject, *Suitum v. Tahoe Reg'l Planning Agency*, 520 U.S. 725 (1997). *Suitum* carefully reviewed each of the earlier cases cited by SRP and concluded that the takings claim at issue was ripe for review. For the reasons articulated in *Suitum*, the question presented by Petitioners in this case is also ripe for review.

Specifically, *Suitum* explained that *Williamson County* requires a " 'final, definitive position' " of the state agency in question before a takings claim will be considered ripe for review. *Suitum*, 520 U.S. at 737 (quoting *Williamson County*, 473 U.S. at 191). The Court also noted *Williamson County's* requirement that the party asserting a takings claim "must at least 'resort to the procedure for obtaining variances . . . [and obtain] a conclusive determination. . . . ' " *Id.* (quoting *Williamson County*, 473 U.S. at 193) (alterations in original). Similarly, *Suitum* noted that *MacDonald* "reaffirmed *Williamson County's* requirement of a final agency position." *Id.*

In the case now before this Court, the Arizona Supreme Court is the relevant state "agency." That court has rendered a final decision leaving no doubt that it has rejected Petitioners' takings claims. Although the lower courts of Arizona will apply the decision, only the Arizona Supreme Court has the power to modify it. The decision itself clearly constitutes the "final, definitive agency position" required by *Suitum*, *MacDonald* and *Williamson County*. Furthermore, though not a mandatory procedural step, the motion for reconsideration filed by Petitioners and subsequently denied by the court, satisfies any requirement that Petitioners "resort to the procedure for obtaining variances." The only such procedure available to parties aggrieved by a decision of the supreme court is a motion for reconsideration. *See* Ariz. R. Civ. App. P. 22.

Moreover, it is not clear that the cases cited by SRP apply to the takings claim asserted by Petitioners. Each of those cases analyzed ripeness in the context of "regulatory takings" where the " 'local agencies charged with administering regulations governing property development are singularly flexible institutions . . . . ' " *Suitum*, 520 U.S. at 738

(quoting *MacDonald*, 477 U.S. at 350). In this case, the lower courts must take their direction from the Opinion Below. They have no discretion to deviate from its conclusions. Those courts will be singularly *inflexible* institutions when applying the new subflow zone, the cones of depression analysis, and the Arizona Supreme Court's statement regarding property rights in groundwater.

Because nothing the lower courts may do in the future can alter these fundamental aspects of the Opinion Below, the decision of the Arizona Supreme Court is ripe for review at this time. *See Suitum*, 520 U.S. at 739 ("Because the agency has no discretion to exercise over Suitum's right to use her land, no occasion exists for applying *Williamson County's* requirement that a landowner take steps to obtain a final decision about the use that will be permitted on a particular parcel."). In *Suitum*, the Court noted that an agency should not be allowed to argue that a "takings claim could be kept at bay from year to year" because "such a rule would allow any local authority to stultify the Fifth Amendment's guarantee." *Id.* at 741. For the very same reason, this Court should conclude that ripeness is not an impediment to timely, effective review of the takings issues raised in the Petition.

IV. CONCLUSION.

For the reasons articulated in Petition No. 00-1464, and the additional reasons set forth in this Reply, Petitioners respectfully request that this Court issue a writ of certiorari to review and reverse the Opinion Below.

Respectfully submitted,

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